The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 691.—Vol. XVIII. LONDON, SATURDAY, NOVEMBER 18, 1848. [Price 6d.

TO RAILWAY CONTRACTORS, COAL AND IRONMASTERS, AND OTHERS.

MR. S. ROWLEY has received instructions from Messrs. T. Brassey and Co., to submit to PUBLIC COMPETITION, on the days and places mentioned,—the remaining EFFECTS on that part of the NORTH STAFFORDSHIRE RAILWAY, which has been completed under their contract, between Stone and Congleton:

On TUESDAY, November 21st, at STONE;
On WEDNESDAY, November 22d, at SHELTON YARD, near Stoke;
On THURSDAY, November 23d, at CONGLETON STATION,—

ONE THOUSAND CONTRACTORS' WAGGONS. 1

Sale to commence each day at Twelve o'clock.

Further particulars may be obtained on application to John Jones, Esq., Newcastle-under-Lyne; Mr. Thomas Jones, on the Harecastle Tunnel; and the auctioneer, Burslem.

PEMBROKESHIRE.

SALE OF VALUABLE FREEHOLD ESTATES, CONTAINING RICH MINES OF IRONSTONE, AND ANTHRACITE COAL.

MR. H. P. GOODE has been favoured with instructions to OFFER FOR SALE, BY PUBLIC AUCTION, at the RUTZEN HOTEL, NARBERTH, on Thursday, the 21st day of December, 1848, at the hour of One in the afternoon, in Ten Lots (subject to such conditions as will be then and there produced),

THE FOLLOWING

VERY IMPORTANT ESTATES, 2

Situate in the parish of SAINT ISSELLS, and within the immediate neighbourhood of SAUNDERSFOOT AND TENBY:—

LOT I.—The rich productive FARM of TREBERTH, comprising a farm-house and offices, and 120 A. 1 R. 20 P., or thereabouts, of excellent land, in the occupation of Mr. Benjamin Pugh (now aged about 48), under a lease for his life granted about 40 years ago, at the low yearly rent of £80. The land is full of IRON ORE and COAL of the best quality, excepted out of the lease, and into which a level has already been driven from the sea through the Hean Castle estate. This lot is beautifully situated, and commands splendid views of the picturesque scenery of Hean Castle and Tenby Bay, and is near Saundersfoot Harbour and Railway, and about a mile from the London and Hobbs' Point mail-road.

LOT II.—TWO SMALL TENEMENTS adjoining lot 1, with gardens and three fields, containing together 4 A. 1 R. 9 P., or thereabouts, in the several occupations of Mary Williams and John Rees, as tenants from year to year, at rents amounting to £6 10s. per annum. This lot also possesses rich mines of ironstone and coal.

LOT III.—TWO COTTAGES, with office and land, containing together 23 A. 1 R. 5 P., or thereabouts, in the several occupations of George Phelps, Sarah Morris, and Thomas Thomas, at yearly rents together amounting to £7 4s. per annum.

LOT IV.—FIVE VALUABLE FIELDS adjoining Lots 2 and 3, in the occupation of Isaac Phelps, as tenant from year to year, at the low yearly rent of £2 4s. 6d. This lot is capable of great improvement.

LOT V.—A COTTAGE, GARDEN, and OFFICES, and SEVERAL CLOSES of LAND containing together 6 A. 1 R. 12 P., or thereabouts, in the occupation of John Davis (aged about 49), under a lease for his life, at the low yearly rent of £4. Also, a close of land in the occupation of Joseph Callen, as a tenant from year to year, at the apportioned yearly rent of £2 10s., and two closes of ground in the occupation of Thomas Cozens, as yearly tenant, at the yearly rent of £1 15s.

LOT VI.—HARRY STUMP FARM, in the occupation of Mary Thomas, with a wood adjoining, containing together 25 A. 0 R. 40 P., or thereabouts, of very rich land, held by her as tenant from year to year, at the low yearly rent of £20, exclusive of the wood, which is in hand. This lot is very rich in minerals, and can be worked by the same engine-power as Lot 1, which it adjoins.

LOT VII.—The very compact and valuable FARM of EROX HILL, with excellent farm buildings, containing by admeasurement 45 A. 3 R. 35 P. or thereabouts, in the occupation of Mr. John Morgan, as tenant from year, at the yearly rent of £36. This farm is beautifully wooded and sheltered, and the views from the grounds are peculiarly pretty.

LOT VIII.—A COTTAGE, GARDEN, and TWO FIELDS adjoining lot 9, in the occupation of Mr. Davies (aged abont 50), under a lease for his life, at the low yearly rent of £4.

LOT IX.—KILLAWEN FARM, in the occupation of Mr. George Hughes, as tenant from year to year, at the yearly rent of £40, comprising a capital farm-house and premises, and 36 A. 3 R. 37 P. or thereabouts of very good land, beautifully situated, and well watered. This lode adjoins Bonville's Court; it contains the rich veins of coal and iron now so profitably worked upon that estate, and possesses beautiful sites for villas.

LOT X.—STONE'S CROSS, a very rich productive FARM, containing 20A. 0R. 36P., or thereabouts, in the occupation of Selina Griffiths Lloyd, under a lease for two lives, aged respectively 73 and 59, or thereabouts, at the very low yearly rent of £5 10s. This lot possesses many attractive sites for a villa, and is bounded on the north and west by lot 9, on the east by St. Issell's Glebe, and on the south by the much admired residence called Netherwood.

The above-mentioned estates are all situate near the sea, and are distant from Saundersfoot about 1 mile, from Tenby about 5 miles, from Pembroke and Pembroke-dock about 11, from Narberth about 6, and from Carmarthen about 22.

Few such opportunities for investment as the present have been offered to the public of estates so beautiful in surface and so rich in minerals.

Printed particulars, with lithographic plans, will be ready after the 15th November instant, and may be had at the principal inns in the neighbourhood, or of Messrs. Evans, Powell, and Co., solicitors, Haverfordwest, and Mr. H. P. Goode, land agent and surveyor, Haverfordwest.

*** For a view of the estates apply to Mr. James, Saundersfoot.

Haverfordwest, November 2, 1848.

RHONDDA VALLEY.

TO COAL TRADE CAPITALISTS.—MOST ELIGIBLE INVESTMENT.—WANTED TO DISPOSE OF, a PART, or the WHOLE, of the INTEREST in the GLYN VACH COLLIERY, contiguous to the Taff Vale Railway, at present working a Three-Feet Coal, of excellent quality, and laid out most advantageously for sinking down to the Dinas Old, or Big Rock, Coal, so celebrated for its good qualities, that the Great Western Railway Company have contracted to take 300 tons per day from a neighbouring colliery. The workings are in first-rate order, and at present yielding about 20 tons per day, held under a lease from Sir Thomas Digby Aubrey, Bart., for 40 years—consisting of 295 acres, the principal part of which is to the rise, and enjoying considerable advantages over every other colliery in the valley. The advertiser would have no objection to leave £1000 of the purchase money invested on approved security.—Samples of the coal, and facilities for viewing the colliery, are at all times available on parties applying to the agent, on the premises; and further particulars may be obtained from Edward Bradley, Esq., Cowbridge.

A Fire-Clay, of superior quality, may be worked with the coal. 3

COAL.—TO BE SOLD, OR LET, a valuable COAL MINE, the property of Sir Thomas G. Heaketh, Bart., situate about five miles from the important manufacturing town of BLACKBURN, in the township of Great Harwood, in the county of Lancaster. The mine has been recently proved, and found, at 77 yards from the surface, to be 5 feet in thickness, and of excellent quality. It is commonly called, or known by the name of, the UPPER MOUNTAIN MINE, and extends over about 1000 statute acres, which will be divided into suitable lots. 4

A section of the borings may be seen by applying to Mr. Boosie, Rufford Hall, Ormskirk; or to Mr. Whittle, coal viewer, Charnock Richard, Chorley—to either of whom proposals may be sent.

GLASS-WORKS.—TO BE SOLD, OR LET, in one or more lots, in consequence of the partners intending to retire from business, the old-established WINDOW GLASS-WORKS, well known as the

BROAD AND CROWN GLASS-WORKS, NEWCASTLE-ON-TYNE. 5

Consisting of FIVE GLASS-HOUSES, in complete working order, for making crown, sheet, and coloured window glass, with all the necessary appendages for carrying on the manufacture on the most extensive scale; they have a frontage to the River Tyne of upwards of 960 feet, with ample space to extend the works, if needed. There is a railway for the delivery of coals and materials to all parts of the works, and houses for the workmen.

For further particulars, apply to the managers, at the works, or to Mr. G. W. Stable, solicitor, Newcastle-on-Tyne.

NOTICE TO GAS COMPANIES.—J. B. STEARS, ENGINEER, after many years practice in the CONSTRUCTION and MANAGEMENT of GAS-WORKS in the United Kingdom, as well as on the continent, having so far improved the mode of construction and management of these works, as to render them a source of certain gain; and aware that there exists in England a number of small works, which, although useful to the localities in which they are established, produce little or no profits to the proprietors,—J. B. S. proposes to such companies to FARM their WORKS, for a stipulated number of years, at a fixed annual sum, generally considerably more than the proprietary now actually receive, and at the same time releasing them from all the trouble of administration, whilst his plan will ensure to the consumers pure and brilliant gas. 6

For further particulars, apply to J. B. Stears, proprietor of the Gas-Works at Saumur, Maine et Loire, France.

TO CONSUMERS OF GAS.—The PATENT GAS-LIGHT MONITOR—ADAPTED to EVERY DESCRIPTION of BURNER, and SUPPLIED at a COST placing it within the REACH of EVERY CONSUMER—regulates the flame of gas-lights to any required height—economising the consumption, and preventing the danger and inconvenience arising from the flaring of lights. 7

PATENTEE'S OFFICE, 20, KING-WILLIAM-STREET, CHARING-CROSS.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY, 8

23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,*

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

Borough of Londonderry.

TOWN SURVEYOR.—WANTED, by the CORPORATION OF DERRY, a TOWN SURVEYOR: he must be thoroughly conversant with masonry and building, be able to draw plans, understand levelling and surveying, and have a general knowledge of earthwork, &c.—Salary, £150 per annum. 9

Application to be made to the Mayor of Derry, on or before 1st December, stating, in detail, qualifications and previous experience.

LONDONDERRY TOWN IMPROVEMENT.

TO CONTRACTORS AND OTHERS.—The CORPORATION OF LONDONDERRY are prepared to RECEIVE TENDERS

For the CONSTRUCTION of a RESERVOIR and TANK, with all necessary works in connection therewith.

For the SUPPLY of a QUANTITY of IRON PIPES, varying from 2 to 10 inches in diameter, with SLIDE COCKS, FIRE PLUGS, BENDS, JUNCTIONS, &c. 10

For the CONSTRUCTION of a system of SEWAGE, embracing a considerable portion of the borough.

Plans, specifications, and particulars, may be seen and had at the office of R. Hassard, Esq., East-Wall, who will give all necessary explanations of the reservoir and tank, on and after the 20th October inst.—All tenders for the same to be sent in before 20th Nov.

Plans of the sewage to be seen on and after the 13th of November.—All tenders to be sent in before the 15th of December.

Of the iron pipes, &c., may be seen, as above, on and after the 2d of November.—All tenders for the same to be sent in before the 11th December, 1848.

The tenders to be addressed to the Mayor of Derry, and must be in conformity with the forms attached to the specifications.

Security will be required for the due performance of the works, and the corporation will not feel themselves bound to accept the lowest tenders.

October 27, 1848.

WANTED TO BORROW,—In one sum, or in sums, not less than £500 each, by the CORPORATION OF LONDONDERRY, TEN THOUSAND POUNDS, to be secured on the rates leviable under the Londonderry Improvement Act. 11

Application to be made to the solicitor of the corporation, S. L. Crawford, Esq., Londonderry, or 37, Blessington-street, Dublin.

ECONOMICAL STEAM-ENGINE—surpassing the Cornish.—CRADDOCK'S PATENT DOUBLE CYLINDER HIGH-PRESSURE EXPANSIVE and CONDENSING ENGINE, alike adapted for MARINE, LOCOMOTIVE, and STATIONARY PURPOSES.

BOILER—Tubular, free from deposit, and perfectly safe from explosion.
ENGINE—Not half the weight or bulk of ordinary engines.
FUEL—Under 3 lbs. of coal per horse-power per hour.
WATER—Under 1 gallon per horse-power per day of 10 hours, for all purposes, with air as the medium of condensation.
These engines are erected at a comparatively trifling expense, and are easily worked.

FOR SALE.

TWO 40-horse power ENGINES, suited to CONDENSE either by air or water.
TWO 20-horse ditto ditto ditto ditto.
ONE 10-horse ditto ditto ditto ditto. 12
N.B.—The 10-horse is adapted to drive, warm, and ventilate a factory.

A PAIR of OSCILLATING MARINE ENGINES, of 10-horse power.

PRICE.—The patentee is desirous of placing some of his engines in good hands, and would accept an extremely low price from respectable parties for the above engines.

The above invention has been known through the scientific press since the date of the first patent, in 1840, since which much thought and capital have been employed in simplifying the practical details. It is now a most simple, efficient, and economical invention, as the engines above offered for sale will practically demonstrate.

For a clear elucidation of the principles, economy, and practical details of this invention, see *Craddock's Lectures on the Steam-Engine*, &c., sold by Simpkin, Marshall, & Co., London, and all booksellers, price 7s. 6d., including 10 drawings.—See also *Mining Journal*, Sept. 18, 1847; *Mechanics' Magazine*, Nos. 1251 to 1254, and 1258; *Midland Counties Herald*, Sept. 30, 1847; *Railway Gazette*, Oct. 2, 1847; *Manchester and Salford Advertiser*, Oct. 2, 1847; *Nautical Standard*, Nov. 20, 1847; *Literary Gazette*, Jan. 8, 1848; *Practical Mechanics' Journal*, of May, June, and August, 1848.

Apply to Thomas Craddock and Co., 36 and 38, Broad-street, Birmingham, where engines on the above principle may be seen at work.

Also ON SALE, THREE 4-horse high-pressure ENGINES—simply arranged and well got up.—Price, £12 per horse-power.

PATENT SAFETY FUSE.—Mr. WILLIAM R. BANT would direct the attention of MINING COMPANIES and OTHERS to the FACT of his OWNING a PATENT for the MANUFACTURE of SAFETY FUSE in Spain, and that he will be happy to attend to any communications which may be addressed to him for the SUPPLY thereof. 13

No. 74, Calle de San Miguel, Carthagena, Nov. 4, 1848.

THE GENERAL TELEGRAPH COMPANY—(Under Royal Letters Patent) are enabled to EXECUTE, by CONTRACT or OTHERWISE, the most approved ELECTRIC TELEGRAPHS, with the best insulation yet attained.

Applications for terms, &c., to be made to the secretary, at the company's offices, No. 9, John-street, Adelphi, London. 14

RIDER'S RAILWAY BRIDGE.—TO RAILWAY COMPANIES.—This BRIDGE has now been for 18 months in DAILY USE (having a double track) on the HARLEM RAILWAY, in the State of New York, United States. The Erie Railway and the Newhaven Railway Companies have likewise adopted it.

Several other bridges, for ordinary purposes, are also being constructed. 15

The advantages of this over all other iron bridges hitherto invented, consist in the small amount of iron required, compared with the strength obtained, in avoiding the use of any surplus weight of material, in the consequent economy of its construction, and also from its lightness, easy mode of putting together, and facility of transport, in its peculiar adaptation for foreign use.

As regards economy, it can be erected at a cost not exceeding that of a WOODEN BRIDGE, of equal capability.

Applications to be made to Mr. Moulton, the patentee, Bradford, Wilts.

ADVANTAGEOUS OPPORTUNITY.

CUBERT SILVER-LEAD MINE, in the parishes of Cubert and Perranzabuloe, in the county of Cornwall.—TO BE SOLD, BY PRIVATE CONTRACT, the ABOVE MINE, with STEAM-ENGINE, of 36-inches cylinder, 16-inches pitwork, and with all other necessary MATERIALS and BUILDINGS. 16

This mine offers a most excellent opportunity for investment, such as is seldom to be found. The engine-shaft is sunk to 7 fathoms below the 35 fathom level, and is expected to intersect the lode in 5 or 6 fathoms further sinking. The levels have been driven for a great length the lode having been productive throughout, and the prospects being of the most promising description.

The mine is held under lease from John Oats, Esq., the Earl of Falmouth, and Sir R. R. Vyvyan, at 1-16th and 1-18th respectively.

Full particulars as to the state of the mine may be obtained from Capt. Francis Rowe, and from the secretary, Mr. Henry Thomas, 8, George-yard, Lombard-street, London, to whom proposals to treat for the purchase of the mine should be addressed.

Nov. 10, 1848.

GROWA SLATE COMPANY, TREVALGA, COUNTY CORNWALL.

1200 parts, or shares, of £5 per part, or share.

NOW IN WORK ON THE "COST-BOOK" PRINCIPLE. 17

This quarry has been worked for many years by Mr. Avery, of Delabole, so well known and eminently successful in the slate trade, which is of itself a guarantee of the value of the property. The lease of that gentleman has, however, expired, and the present proprietors propose a company to give full and greater impetus to the works.

The present lease is for 90 years from Lady-day, 1848, at a yearly rental of £100, without Royalty or dues of any kind.

The character of the slate has been long established throughout the United Kingdom, and on the continent, as being of the most superior decription in every respect, tenacity, durability, colour, singular imperviousness to water, and resistance of atmospheric decomposition. In fact, it is of the first class slate, and shareholders residing in the metropolis, or its vicinity, have an opportunity of witnessing its appearance and effects by examining the roof of Camberwell New Church, the north side of which is covered with this slate, in slabs, with slate rolls, and is scarcely distinguishable from lead; while the south side, which is roofed with Bangor slate, will be found to be very inferior in every respect. The appearance of the one is beautiful in the extreme, while the other is the reverse. The one is also without a fracture of any sort, but the Bangor slate is much split and patched in many places. It is a curious coincidence of circumstances, that the slates of Growa and Bangor should be thus placed in juxta-position, but nothing can be more satisfactory for those who desire to invest in this undertaking than to have such an opportunity of ocular demonstration of the superiority of Growa slate over that of Bangor, which hitherto was supposed to be without rival.

The new church of St. Matthew, in the City-road, is likewise covered with "rags" of this slate.

The inhabitants of Manchester have also an opportunity of seeing the Growa slate. The beautiful church of Worsley, near Manchester, built by the Earl of Ellesmere, being covered with slabs similar to Camberwell Church. The roof of the elegant structure near Frome, Somersetshire, denominated "The Chauntry," is a specimen of this slate, as is also the church of Treckney, near Boston, in Lincolnshire.

All the necessary machinery is on the quarry. It is situated on the cliffs in the parish of Trevalga, within only one mile of the port of Boscastle. Vessels, however, can load at the quarry itself during three-fourths of the year, and requisite apparatus has been adjusted from the cliffs, to many fathoms at sea, to enable vessels to ride quietly while receiving their cargo, and ships of 120 tons have loaded in four hours.

Prospectuses, and every information, may be obtained on application to the offices, No. 57, Threadneedle-street, City.

WANTED,—A SECOND-HAND STEAM-ENGINE, of 20 to 24-inch cylinder, in perfect condition, in the neighbourhood of Truro. Particulars, price, &c., to be forwarded immediately (post-paid) to Capt. Gripe, Saint Agnes, near Truro. 18

CONDENSING STEAM-ENGINE, 32-horse power, FOR SALE.—Apply to Mr. S. Mills, broker, Sunderland. 19

TO COLLIERY PROPRIETORS.—A GENTLEMAN, having opportunities of disposing of very large quantities of approved Steam Coal, OFFERS his SERVICES, ON COMMISSION, to PIT-OWNERS who wish to increase their shipments. The most respectable references can be given.—Apply (by letter) to "Alpha," Cambell's Coffee-house, Rood-lane, London. 20

TO IRON AND COAL MASTERS.—A PERSON of middle age, brought up to, and of 30 years' experience in the erection and management of every department of iron and coal works in England, North and South Wales—20 years agent, partner, &c., of a late leading M.P., is OPEN to an ENGAGEMENT.—With testimonials, &c., address "B.," Langharne, Carmarthenshire. 21

TO IRONMASTERS.—TO BE DISPOSED OF, BY PRIVATE TENDER, a complete BLOWING APPARATUS, consisting of
A BLOWING CYLINDER, 84-inch diameter and 8-feet stroke.
A REGULATING CYLINDER, 108-inch diameter and 8-feet long. 22
NOZZLES and BLAST-PIPES (24-inch diameter), with holding down bolts and plates—complete.

May be inspected at the New Buffery Iron-Works, near Dudley.—Tenders to be addressed to Mr. W. Richardson, engineer, Dudley.

CHEMICALS.—ROBERT WAKE, CHEMICAL COMMISSION AGENT and METAL BROKER, HULL, pledges his best attention to CONSIGNMENTS of SUGAR-LEAD, NAPTHA, and OTHER CHEMICALS, ON SALE, for prompt payment; and begs to state, that his old and valuable connection in the manufacturing districts, gives him unquestionable advantages for the sale of this class of goods amongst the best buyers.—Hull, Nov. 15, 1848. 23

WHEAL ST. ANNE COPPER MINE, DREWSTEIGNTON, DEVON.—TO BE DISPOSED OF, a FEW SHARES in this MINE.—Further particulars may be obtained (if by letter, post-paid) from E. T. Higgins, No. 36, Sparriergate, York. 24

MINING INVESTMENT.—Captain JOHN HAMBLY, of GUNNIS LAKE, CALSTOCK, CORNWALL, being advantageously located in the centre of the mining districts of Cornwall and Devon, and having made arrangement for PURCHASING and SELLING MINING SHARES, &c., on COMMISSION, begs to OFFER his SERVICES to his FRIENDS and the PUBLIC generally.

J. H. having been a mine agent for 20 years in the said counties, and having a practical knowledge of mining (for which the necessary testimonials can be produced, if required), will give the fullest information in his power (without charge), and a survey, or inspection, would be made of any mining property, by himself, on moderate terms. 25

MINING INVESTMENT.—Mr. R. THOMAS, of No. 8, GEORGE-YARD, LOMBARD-STREET, LONDON (who has had upwards of 20 years' experience as a mining agent in London), having made arrangements to resume PURCHASING and SELLING MINE and OTHER SHARES ON COMMISSION, begs to OFFER his SERVICES to his FRIENDS, CAPITALISTS, and OTHERS, in the TRANSACTION of such BUSINESS. The unprecedented low price of mine shares renders the present a most favourable period for investment, with the prospect of large returns.—The fullest information (without charge) will be given relative to mining operations and investments; and a survey, or inspection, if required, of any mining property will be made by a competent party, on moderate terms. 26

MINING OFFICES—Established Five Years.—THOMAS P. THOMAS begs to inform his friends and the public, that he has REMOVED from No. 18, Threadneedle-street, to No. 3, GEORGE-YARD, LOMBARD-STREET, LONDON (late Messrs. Phillips and Tiplady's). 27

N.B.—Dealer in English and Foreign Funds, Mining, Railway, Gas, and other shares.

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs. R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum, whilst those on the eve of so doing are selling at corresponding low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously upon personal application.—MONEY ADVANCED upon the above securities. 28

MR. C. S. RICHARDSON, CIVIL ENGINEER, LAND AND MINING SURVEYOR,
5, *WHITEFRIARS-STREET, LONDON.* 29

JAMES LANE, MINING SHARE DEALER,
80, *OLD BROAD-STREET, LONDON.* 30

MR. JAMES TODD, LAND AND MINE SURVEYOR, AGENT AND VALUER, having studied EMIGRATION for some years past, not only as an outlet for our surplus population, but to find out if it is really a profitable means of investing capital; and being well convinced that it is desirable for both purposes, Mr. TODD, from a long and careful research, is enabled to POINT the LOCALITIES that will most quickly and profitably pay back the outlay; and he OFFERS his SERVICE to EMIGRATION COMPANIES, SOCIETIES, or to PRIVATE INDIVIDUALS, fully assured, that if his instructions are acted upon, all the great faults which have been committed in selecting locations at random will be avoided. Mr. Todd not only being well aware of the capabilities of the land, but also of the minerals contained, is prepared to show the perfect success of any one or more individuals who will be guided by his experience.

ESTATES MEASURED, MAPPED, VALUED, LEVELLED, and LAID OUT for DRAINAGE and IMPROVEMENT.

UNDERGROUND WORKINGS MEASURED and MAPPED, and the MINERALS COMPUTED and VALUED with the nicest care and accuracy.

ESTIMATES PREPARED of the COST of OPENING-UP COLLIERIES, &c. 31

Every thing done on the very lowest terms.

Mr. Todd has several COAL-FIELDS TO LET, ON LEASE or SALE, at very moderate royalties or terms.—OFFICES, BRECON-ROAD, ABERGAVENNY.

MONEY.—MESSRS. KILLICK & CO. (late WINSTANLEY, KILLICK, & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.—6, Bank Chambers, opposite Bank of England. 32

ASTURIAN MINING COMPANY.—The board of directors hereby give Notice, that they have made a further CALL of ONE POUND per share upon the shares in the capital stock of this company, and that such call is PAYABLE at the London and County Bank, Lombard-street, on or before the 21st day of November next.

By order of the board,
K. MACKENZIE, Secretary. 33

Offices of the Company, No. 9, Austinfriars, Oct. 20, 1848.

BANWEN IRON COMPANY.—Notice is hereby given, that a SPECIAL MEETING of the shareholders of this company will be HELD at their offices, 23, Threadneedle-street, London, on Tuesday next, the 21st inst., at One o'clock precisely.

By order,
S. P. HARRIS, Secretary.
23, Threadneedle-street, Nov. 16, 1848. 34

TIN VALE MINING COMPANY.—Notice is hereby given, that the COMPANY WILL NOT HOLD THEMSELVES RESPONSIBLE to any person for GOODS SUPPLIED to, or DEBTS CONTRACTED by, the MINERS, WORKMEN, or OTHER PARTIES CONNECTED with the MINE, except upon a WRITTEN ORDER, SIGNED by the PURSER.—Dated Liskeard, this 8th day of Nov., 1848.

WILLIAM W. KANSELL, Purser.
JAMES HOSKINS, Captain. 35

WEST UNITED HILLS MINING COMPANY.—At a Meeting held at the Queen's Arms Hotel, on Friday, the 17th instant.

T. CAMPLIN, Esq., in the chair. 36

The accounts of the preceding meeting were read, the purser laid on the table the Cost-book, with the vouchers and other documents connected with the mine.

It was resolved,—That a committee be appointed to investigate the accounts, and that Mr. English be requested to act thereon.

Resolved,—That the meeting do adjourn until Monday, the 20th inst., to meet at Twelve o'clock, to receive the report of the committee.

T. CAMPLIN, Chairman.

UNDER BRITISH and FOREIGN LETTERS PATENT. CAPITALISTS are INVITED to INSPECT the SECURE and PROFITABLE INVESTMENT in HUTCHISON & CO.'S INDURATED and IMPERVIOUS STONE, Chalk, Sand, Plaster, Wood, and Carton-roof Sheeting WORKS. Paving in diamond courses, supplied at Calverly Quarry, Tunbridge Wells, at 6d. per foot superf, perfectly compact and impervious. Other orders executed.—Also, *2 M Malherbe*, near Caen, France.—Chief offices, East Temple Chambers, No. 2, Whitefriars-street, London, where specimens and particulars may be seen.—Licenses granted also for Hutchison's Patent SAW FRAMES. 37

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY ..... West United Hills Mine Co.—Queen's Arms Hotel, Cheapside, at Twelve.
British American Land Company—offices, at Two.
TUESDAY ..... Banwen Iron Company—offices, at One.
WEDNESDAY .. Waterford and Kilkenny Railway—London Tavern, Twelve for One.
London Corn Exchange Company—offices, at One.
THURSDAY .... Caradon United Mining Company—offices, at Two.
The Copper Smelting Association—offices, at Two.
Equitable Reversionary Interest Society—London Coffee-house, at Two.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY ..... Asiatic—5, New Burlington-street ..... 2 P.M.
MONDAY ..... Statistical—12, St. James's-square ..... 8 P.M.
British Architects—16, Grosvenor-street ..... 8 P.M.
Chemical—Society of Arts, Adelphi ..... 8 P.M.
Medical—Bolt-court, Fleet-street ..... 8 P.M.
Pathological—21, Regent-street, Waterloo-place ..... 8 P.M.
TUESDAY ..... Linnæan—Soho-square ..... 8 P.M.
WEDNESDAY ..... Society of Arts—Adelphi ..... 8 P.M.
Microscopical—21, Regent-street ..... 8 P.M.
Ethnological—17, Saville-row ..... 8 P.M.
THURSDAY ..... Royal—Somerset-house ..... 8½ P.M.
Antiquaries—Somerset-house ..... 8 P.M.
Royal Society of Literature—St. Martin's-place ..... 4 P.M.
Numismatic—41, Tavistock-street, Covent-garden ..... 7 P.M.
FRIDAY ..... Philological—London Library, 12, St. James's-square ..... 8 P.M.
SATURDAY ..... Royal Botanic—Inner Circle, Regent's Park ..... 3½ P.M.
Westminster Medical—17, Saville-row ..... 9 P.M.

GEOLOGICAL SOCIETY.

Nov. 1.—Sir H. T. DE LA BECHE (President), in the chair.

Lieut. D. Galton, R.E., was elected a Fellow.

The following communications were read:—"On the supposed Impression in Shale of the Soft Parts of an Orthoceras," by J. Hall, State Geologist of New York. The author had been familiar with these impressions for many years, and had always regarded them merely as concretions. They have, however, been recently described in the *Journal of the Geological Society* as impressions of soft parts of the animal. In opposition to this opinion, Mr. Hall states that similar bodies are found in rocks of various ages, and inclosing shells of gasteropods and other mollusks, in which the animal was not external. Hence, though the organic body may have caused the concretionary action, and partly determined the shape of the mineral mass, this is not to be considered in any respect as an impression of the soft fleshy parts of the animal.

"On Slaty Cleavage," by D. Sharpe, Esq.

On the Winning and Working of Collieries.

BY MATTHIAS DUNN, MINING ENGINEER.

[No. XX.—*Continued from the Mining Journal of the 11th November.*]

SAFETY-LAMPS.

I will now proceed to trace the origin and progress of the invention of safety-lamps, the priority of which may now be said to be settled beyond a question in favour of Dr. Clanny. In consequence of the dreadful accidents from the explosion of fire-damp at Felling, and other collieries in the county of Durham, in the year 1812, so much sympathy towards the sufferers were excited throughout the district, that a committee of gentlemen, belonging to Sunderland and its vicinity, formed themselves into a society, having Sir Ralph Millbank, Bart., as their president. One of their objects was to raise funds, in order to reward any person or persons who might suggest improvements in the conducting of the neighbouring collieries, which might tend to diminish the number and extent of similar accidents. These gentlemen, under the denomination of the "Society for the Prevention of Accidents in Coal Mines," held several meetings, and received a variety of information from professional and scientific gentlemen. It was during the sittings of this society, and in the year 1813, that my esteemed friend, Dr. Clanny (whose unwearied labours in the cause of science and humanity have, until the present period, remained unrewarded), exhibited his steam safety-lamp, and claimed for himself the undoubted merit of having been the first person to conceive and carry out the idea of a lamp to burn with safety in an explosive mixture of air, several particulars of which will be found in my *History of the Coal Trade*.

It is not for me to account, and perhaps it might be deemed invidious to attempt assigning reasons, why the merits of Dr. Clanny should for so long a period have remained unrewarded; but a strong sense of his claim to some public testimonial became at length so general and so urgent, that in the year 1846, a meeting was held in Newcastle, and a committee organised to carry the suggestions into effect, and from their address to the public upon that occasion, I take leave to insert a few extracts:—

"About the year 1812 this district was visited by several colliery explosions of the most awful and extensive description: many were the speculative suggestions thrown out as a remedy for these disasters, and amongst the rest, the scientific talent and humane feelings of Dr. Clanny were enlisted in the cause. In the course of his investigations of the nature of the explosive mixtures, and his researches as to the preventive measures made use of in the working of coal mines, he discovered that the only means of carrring on miming operations in explosive air was by the steel-mill, which not only afforded the most miserable light, but was oftentimes known to be the cause of explosion. The energies of his mind were then set to work to discover a substitute affording a better light, and also attended with less danger than the steel-mill. In the course of his studies he conceived the expedient of a safety-lamp, greatly different, it is true, from the safety-lamps in present use, for its principal was that of an insulated light fed by atmospheric air from without.

"In 1813, this lamp was exhibited before the Society for the Prevention of Accidents in Coal Mines, established at Sunderland in 1812, and of which the late Sir Ralph Millbank, Bart., was president. The society consisted not only of philanthropic and scientific gentlemen, but also of practical viewers, of whom the late Mr. Buddle, the present Messrs. G. Johnson, M. Dunn, &c., were members. This, then, beyond all question, was the first attempt that ever had been made to produce a lamp calculated to burn safely in an explosive atmosphere. In May, 1813, a paper was read before the Royal Society, entitled 'On a Steady Light in Coal Mines, by Dr. Clanny,' which was soon afterwards published in the *Philosophical Transactions*. On the 1st of October, 1813, the same safety-lamp was exhibited at the Literary and Philosophical Society, Newcastle-on-Tyne; and on the 16th of October, and the 20th of November, 1815, experiments were made in the explosive air of the Herrington Mill Pit, belonging to the late Sir H. V. Tempest, and certificates of its usefulness signed by J. H. Holmes, W. Patterson, J. Gleghorn, A. Hopper, and G. Patterson.

"Now, it was not till the year 1815 that Sir H. Davy turned his attention to the subject, and on the 1st January, 1816, his first lamp was tried at Hebburn Colliery. Simultaneous with his invention was that of Mr. G. Stephenson; so that, from the above facts, there is not a shadow of doubt that to Dr. R. Clanny is due the merit of having been the first to conceive, as well as to carry into effect, the construction of a safety-lamp to burn in the explosive air of coal mines.

"To Sir H. Davy was honourably awarded a present of plate, worth 2000*l.*, and Mr. G. Stephenton was also rewarded with a very considerable sum of money, suitable to his then condition of life; but owing to some causes, which cannot be explained without the risk of an invidious inquiry, the merits of Dr. Clanny have been entirely overlooked, except by the Society of Arts, whose gold and silver medals he has received; and what adds to the injustice of public neglect is, that from the aforesaid period he has been incessantly working at the production of improved lamps, at a great cost of money and time, actuated by humanity, and a desire of being of service to his fellow-creatures."

The result of this appeal was the presentation of a splendid silver salver, with a purse of gold, which took place at the Athenæum, in Sunderland, upon the 3d of February, 1848. From the period of 1813 to the present moment, has this talented and respected individual laboured incessantly in the improvement and remodelling of his lamp, and has now produced one which may vie with the best extant, for safety, beauty, and utility, the proof of which is contained in numerous certificates from various parts of the country. Some individuals who have not tried this lamp, object to the use of glass; but as a travelling or surveying lamp for viewers and inspectors, it is undoubtedly superior to the lamp of Sir H. Davy, and as to safety, that consists in the lamp becoming extinguished whenever the explosive mixture arrives at an extreme point.

A few particulars regarding his latest improvements, I quote from his communication to the *Mining Journal* of April 1st—"In this new safety-lamp I employ a copper cylinder, having numerous and very small perforations, through which the needful air, for the support of combustion, passes downward to the flame of the oil lamp. Within the centre of this copper cylinder, the used air passes directly upwards through a single top into the atmosphere, carrying with it the major part of the soot of the oil lamp. This copper cylinder maintains itself in a much more cleanly state than does the wire gauze. It will be in the remembrance of the readers of the *Mining Journal*, that I am now returning to my plan which I adopted in the construction of my steam safety-lamp (already described), in which the atmospheric air passed spontaneously upwards through a tube at the back of the lamp, then it passes through a volume of steam (which was extricated by the heat of the oil lamp) to the flame of the oil lamp. I am impressed that perforated copper cylinders will be found to be also greatly superior to plates of iron or tinned iron. It does not rust, and is more readily cleaned than a safety-lamp. The glass cylinder is exceedingly thick and well annealed, and the ends of the glass are so well secured, that if a crack took place, it remains *in situ*."

The Sunderland Society printed their first report in the year 1814, a copy of which was transmitted to Sir H. Davy, amongst other scientific men, accompanied with an invitation to come down to the north, and endeavour to improve upon the present system of ventilation. The invitation was accepted, and on the 25th August, 1815, Sir H. Davy visited the collieries of Hebburn, Walls End, &c. After having entered fully into the inquiry as to the nature and practical management of the ventilation, he candidly confessed that he had no hopes of effecting any improvement in it; but after explaining to him the nature of the inflammable air, the quantities in which it was emitted, and the localities from which it issued, he said he did not despair doing something regarding it; he therefore requested that a specimen of the gas might be sent him, upon which to make his experiments. At this period I was manager of Hebburn Colliery, in which a very violent blower continued to discharge its contents at one of the dykes; and from that blower six wine-bottles were filled, and transmitted to him on the 5th October, 1815. On receiving the gas, he immediately commenced his experiments and analyses; and after progressive researches and discoveries (during which he gave several communications to the Royal Society), and having satisfactorily ascertained the properties of the gas, he published the following notice, in a paper read before the Royal Society:—

Sir H. Davy's Experiments on Hebburn Colliery Gas.—January, 1815.—"When I found that explosive mixtures, admitted through narrow metallic tubes (canals) brought in contact with flame, burnt only at the surface whence they issued, I had hopes of keeping up a constant flame from explosive mixtures issuing from tubes or canals; but on trying this, even in atmospheric air, it failed. Conceiving that it was owing to the too great cooling power of the metallic sides of the canal, it occurred to me to try the metallic wire gauze sieves; and with this I had perfect success. The first kind I tried contained 400 apertures in a square inch: I closed all apertures in the lamp except those, and introduced it into coal gas; the flame of the wick at first was lost amidst the flame with which the whole cylinder was filled, which was feeble but green. In mixtures of 13, 12, and 11 of air to 1 of coal gas, the flame of the tap did not disappear; it became paler, however, and blended with the flame of the explosive mixture, filling the cylinder."

[*To be continued in next week's Journal.*]

THE IRON MANUFACTURE OF SOUTH WALES.*

[*Continued from last week's Mining Journal.*]

At the recent meeting of the British Association at Swansea, Mr. Booker, of Velindra, high sheriff of Glamorgan, and himself a proprietor of works, gave a general account of the statistics of the Glamorganshire iron manufacture, and of the mineral resources of the county. This statement, at the request of the president, Mr. Booker promised to expand and to make public; and as the opportunities possessed by its author of gaining authentic information are as great as the talents which he brings to bear upon its arrangement and digestion, we hope, on the appearance of the paper, to find occasion to recur to this subject, and to profit by his labours.

It is difficult to reconcile the statistics of mortality in the Merthyr district with the appearance of the people. They appear to be well fed, when off work warmly clad, and in good bodily condition; neither does the work, excepting that carried on underground, and immediately within the action of the furnaces, appear to be injurious. The children, although too many of them are worked under 10 years of years, are tolerably healthy and plump, and although consumption and typhus occasionally rage, and high wages often lead to idleness and sensuality, yet the Welsh collier drinks beer rather than spirits, and on Sunday the population around the towns appear clean and neat, and dressed, many of them, in their national costume. There is much less appearance of the consumptive stoop and sunken eye than is to be met with in the rural manufacturing districts of England. And yet, from the recent calculations of the Health of Towns Association, the following very startling contrast appears between Tregaron, the most healthy, and Merthyr, the least healthy district, in South Wales. The average period of all deaths in Tregaron is 41 years 9 months. In Merthyr, 18 years 2 months. The average period of all deaths above 20 years is, in Tregaron 60 years 6 months, in Merthyr 47 years 10 months; while the corresponding periods in Holywell, the most healty district in North Wales, are 40 years 7 months, and 62 years. In Tregaron 12·1 per cent. of the population live to between 80 and 90, in Merthyr 2·6 per cent. only. Hence, taking Tregaron as the zero, each individual loses 23 years 7 months, or 4-7ths of life, by residing in Merthyr, and each adult loses 12 years 8 months. Certainly a most awful state of things.

Probably the cause of this monstrous mortality is to be found in the wretched civic economy of these districts, in this respect probably the most deficient in Britain. Other towns have added to the population numbers absolutely as great, within a period as short, but the institution of the old town have usually been capable of some sort of imperfect extension, and have been extended to the rising suburbs. Merthyr, unfortunately, is an appendage to no former nucleus, or rather to one, the institutions of which were wholly inadequate to regulate a large population: 50 years ago Merthyr was an inconsiderable place. By the older inhabitants it is still called the "village," and its petty affairs were managed, or mismanaged, it mattered little which, by the neighbouring Welsh justice and a parish vestry. When this village rose into a town, and this system became inefficient, it became also absolutely injurious, standing in the way of better things. Recently, indeed, a permanent stipendary magistrate has been appointed, and that office, once before tried and suppressed, is now held by an active, able, and upright country gentleman, also a barrister, and is producing in his hands much good. Under the Reform and Boundary Acts a few inconsiderable improvements were effected, and the town received the questionable benefit of a representative in Parliament. Its social economy continues to be, in most respects, wholly unprovided for, and there are few places to which the projected sanitary arrangement will be a greater boon.

The interior of the houses are, on the whole, clean. Food, clothing, furniture, those wants the supply of which depends upon the exertion of each individual, are tolerably well supplied. It is those comforts which only a governing body can bestow that are here totally absent. The footways are seldom flagged; the streets are ill-paved, and with bad materials, and are not lighted. The drainage is very imperfect; there are few underground sewers, no house-drains, and the open gutters are not regularly cleaned out. Dust-bins, and similar receptacles for filth, are unknown; the refuse is thrown into the street. Bombay itself, reputed to be the filthiest town under British sway, is scarcely worse. The houses are badly built, and planned without regard to the comfort of the tenants, whole families being frequently lodged, sometimes 16 in number, in one chamber, sleeping there indiscriminately. The sill of the door is often laid level with the road, subjecting the floor to the incursions of the mountain streams that scour the streets. The supply of water is deficient, and the evils of drought are occasionally severely felt. The colliers are much disposed to be clean, and are careful to wash themselves in the river, but there are no baths or washhouses, or even water-pipes. In some of the suburbs the people draw all their supply from the waste water of the works, and in Merthyr the water is either brought by hand from springs in the hill-sides, or lifted from the river, sometimes nearly dry, sometimes a raging torrent, and always charged with the filth of the upper houses and works. It is fortunate that fires are rare, for it seems to be the custom among the miners to keep a certain quantity of gunpowder under their beds, as a dry and secure place! For this state of things there is no excuse whatever. Merthyr stands 500 and Dowlais about 1000 feet above the sea, both in healthy positions, open to the sun and wind, and on declivities sufficiently steep, with the aid of the frequent rains, to keep the streets, if well paved, tolerably free from accumulation. Iron is cheap, and the clay beds on the hill-sides throw out copious springs of pure water. Sir H. De la Beche, in a recent report upon Merthyr, observes, "At present, be the disposition to cleanliness what it may, from the absence of drainage and proper places whereon to throw their house refuse, whatever neatness may exist inside, the outsides of the dwellings are beset with stinking pools and gutters."

If the morals of the people in these iron districts are less impure than their physical arrangements, they owe it rather to their natural temperament and virtue, and to the active and successful exertions of the followers of John Wesley, than to the care of their local rulers, or of the national church. In 1840, we learn from Mr. Tremenheere's report, that to meet the spiritual wants of 85,000 souls, were provided 11 churches and 93 dissenting chapels. The Sunday schools, excellent auxiliaries, but inefficient alone, supplied almost the only instruction, and even of these, six only, receiving 940 children, were provided by the church. There were 80 dissenting schools, fully attended by children and adults.

The first part of the report of the commissioner, Mr. Lingen, appointed on Mr. Williams's motion in 1846 (printed by the House of Commons, 1847), gives some striking details on this head. It appears that in the county of Glamorgan, out of 383 Sunday schools 92 are church, and 291 dissenting (p. 49); and in Merthyr Tydvil, with a population of about 40,000, there are 41 day schools, with 2301 scholars, or only 6·6 per cent. of the whole population, and of Sunday schools 36; attending which are 961 church, and 5941 dissenters. In this great parish the only day schools of public instruction are the national schools in Merthyr, and those of Sir J. Guest at Dowlais; the latter include a boys' school of 170, a girls' school of 180, and an infant school of 250. These are partly supported by a sum deducted from wages, and partly by about 90*l.* per annum paid by the children in pence. Messrs. Crawshay, Hill, and Messrs. Thompson and Forman, the proprietors of the three great works about Merthyr, make no provision whatever for the education or religious worship of their dependents, "further than some trifling subscriptions to the national schools. (Lingen, p. 305.)

Recently some very slight improvement has taken place. Merthyr, which long had but one parish church, has received a second, built by subscription, but endowed by Lord Bute; and the lazy, non-resident incumbent has been succeeded by a man of very different stamp. Three churches, two chapels of ease, and three schools, have also been opened in other parts of the eastern district. At Dowlais there has long been a chapel of ease, and an efficient resident clergyman, supported by a proprietor of the works, who was also a contributor to the new church at Merthyr.

It also deserves to be mentioned, that when Messrs. Hill and Hopkins opened the Blaenavon Works, in 1804, they built and endowed a church, and in 1815 schools were added and endowed. The population of Blaenavon is 7000 or 8000, and there has been no outbreak there since the works opened. The men were quiet even during the turbulent season of 1839. The Rhymney Company, too, have paid considerable attention to the condition of their workmen.

The social economy of these districts has suffered severely from the want of a middle class between the master and the labourer. The master is a great capitalist, in many cases non-resident, and having but little opportunity of improving the condition of his people. The agents and managers are dependent on the master, and are too commonly raised from the lower classes to retain much intimacy with them, or feel much on their behalf. Hence an absence of sympathy between the rich and the poor, and the spread of secret societies, chartism, and rebellion. The people are not unhappy, not ill-fed, on the whole not injuriously worked; but they have nothing in common with their lords, and they are ready, at the instigation of designing men, to rise up against them and the Government.

[*To be concluded in next week's Mining Journal.*]

* From the *Westminster and Foreign Quarterly Review*.

EXTRAORDINARY ENTERPRISE.—In that portion of the paper on the Iron Manufacture of South Wales, which appeared in last week's Journal, incidental mention was made of the successful exertions of the ancestor of the Foleys, respecting whom the following additional particulars will be read with interest:—"The most extraordinary and the best attested instance of enthusiasm existing in conjunction with perseverance, is related of the founder of the Foley family. This man, who was a fiddler, living near Stourbridge, frequently witnessed the immense labour and loss of time caused by dividing the rods of iron necessary in the process of making nails. The discovery of the process called "splitting," in works called "splitting mills," was first made in Sweden, and the consequences of this advance in art were most disastrous to the manufacturers of iron about Stourbridge. Foley, the fiddler, was shortly missed from his accustomed rounds, and was not again seen for many years. He had mentally resolved to ascertain by what means the splitting of bars of iron was accomplished; and, without communicating his intention to a single human being, he proceeded to Hull, and thence, without funds, worked his passage to the Swedish iron port. Arrived in Sweden, he begged and fiddled his way to the iron foundries, where, after a time, he became a universal favourite with the workmen; and, from the apparent entire absence of intelligence, or anything like ultimate object, he was received into the works, to every part of which he had access. He took the advantage thus offered, and having stored his memory with observations, he disappeared from amongst his kind friends as he had appeared, no one knew where or whither. On his return to England he communicated his voyage and its results to Mr. Knight and another person in the neighbourhood with whom he associated, and by whom the necessary buildings were erected, and machinery provided. When at length everything was prepared it was found that the machinery would not act; at all events it did not answer the sole end of its erection, it would not split the bar of iron. Foley disappeared again, and it was concluded that shame and mortification at his failure, had driven him away for ever. Not so; again, though somewhat more speedily, he found his way to the Swedish iron-works, where he was joyfully received; and to make sure of their fiddler, he was lodged in the splitting mill itself. Here was the very end and aim of his life attained beyond his utmost hopes. He soon discovered the cause of his failure. He made rude drawings, and, after remaining sufficient time to verify his observations and impress them clearly on his mind, once more returned to England. This time he was completely successful, and by the result of his experience, enriched himself, and greatly benefitted his countrymen. This appears the most extraordinary instance of persevering self-devotion recorded in modern times."

TESTING OF METAL AT WOOLWICH DOCKYARD.—The trial of the large guns supplied to the Board of Ordnance, which has been carried on during the last 18 months, for the purpose of ascertaining the best description of gun, and the best metal supplied by contractors, has just been concluded, and Colonel Dundas, C.B., and Mr. Monk, deserve great credit for the excellence of their models. The former 32-pounder gun, of 50 cwts., is now reduced on Colonel Dundas's principle of construction to 25 cwts., effecting a saving of 1¼ ton on each gun of that calibre—the average price of the metal being from 10*l.* to 12*l.* per ton. There is also a saving of 6 lbs. of powder on each charge, the former charges being 10 lbs., and the new pattern being found equally efficient with a charge of 4 lbs. The guns cast at the Low Moor Foundry, in Yorkshire, have been found to stand the heaviest charges when fired, and will consequently receive the largest orders. The expense of the trials has been considerable, but the saving which will ultimately be effected, and the knowledge that no danger is now to be apprehended from the bursting of guns when placed on board of ships, or mounted for service in the garrisons, must give confidence in working them. A trial has also been made of a wrought-iron 9-pounder gun, submitted by Mr. Morgan, of Bristol, but it had been found inapplicable to the service, in consequence of the great recoil breaking the cap squares, or coverings, of the trunions.

A new invention, by retired Captain Sir Samuel Brown, K.H., patentee of the chain cables, and numerous other improvements in ironwork, has been exhibited in the Portsmouth Dockyard to the Hon. Sir Bladen Capel, K.C.B., Commander-in-Chief, the Admiral-Superintendent, and several other naval and scientific gentlemen. It is a compass in a glass box, sustained by a small pillar with telescopic slides, by which it can be elevated or lowered to any desired height. It is designed to obviate the local attraction of the ships. The card is transparent, and the whole apparatus will supersede the use of a binacle There is a mirror attached to it, on which the helmsman will be able to see the reflection of the compass card. A lamp will be placed over it at night. The whole is a most ingenious contrivance, and, if successful, will effect a great desideratum for the nautical world.

NEW PATENTS.

J. Anderson, Abbotsford-place, Glasgow, North Britain, starch manufacturer, for a certain improved mode of separating the different qualities of potatoes and other vegetables.

A. Parkes and H. Parkes, Birmingham, for improvements in the manufacture of metals, and alloys of metals, and in the treatment of metallic matters with various substances.

J. Browne, Osnaburgh-street, Middlesex, gentleman, for improvements in fire-escapes, and in apparatus to facilitate persons employed in cleaning windows.

A. Balfour, Dundee, Scotland, leather merchant and manufacturer, for improvements in apparatus for cutting metal washers and other articles, and in the construction of buffers.

S. Adams, West Bromwich, Stafford, for improvements in mills for grinding.

W. Wilkinson, Yarrow, near Gateshead, Durham, coke manufacturer, for certain improvements in the construction of coke ovens, and in the machinery or apparatus to be connected therewith.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

T. Taylor, Manchester, the scarf wrapper vest.

B. Nicoll, Regent-circus, shirt.

H. J. Nicoll and D. Nicoll, Regent-street and Cornhill, wrapper coat, and feet protector.

W. Evans, Banbury, mangle.—*Mechanics' Magazine*.

The Compendium of British Mining.

ORIGINALLY COMPILED AND PUBLISHED IN 1843.

REVISED, CORRECTED, AND ENLARGED FOR THE "MINING JOURNAL,"

BY J. Y. WATSON, ESQ., F.G.S.

No. VIII.—ON "BOUNDING."

Having in the preceding chapters described the general features of mines, and the modes of working them, it may be interesting, before proceeding to particularise the mining districts, to notice the ancient custom of bounding, which we do, in a condensed form, from a work by J. Basset, Esq., M.A.:—"Bounding is the marking out certain bounds on the surface of land which either now is, or was formerly, waste land. The person having so marked out his bounds, notices, and causes proclamations to be made of them in the local court, called the Stannary Court, and gives notice also to the owner of the soil, who may, if he pleases, within a certain time, himself elect to work the tin within the lands; but if he do not so, the bounder has an exclusive right to dig, and work for, and take the tin, under and within the land so bounded. To compensate the owner of the soil for the entry and taking of his tin, the bounder pays to him certain dues, called "toll-tin," being sometimes 1-15th or 1-10th of the ore brought to the surface. It varies according to custom, and not according to the will of the owner of the soil. He cannot demand what amount of toll he may choose, for that would render the custom and privilege of bounding nugatory. The Duke of Cornwall is, or rather was (for some have been sold), owner of 17 manors in the county of Cornwall, called sometimes the ancient duchy manor, sometimes the ancient duchy, or duchy, somstimes assessionable manors, because formerly, it seems, his ministers used to go down at certain periods and assess the rents; and when the manors have been sold, he is still, by reservation, owner of the minerals under all the wastes and conventionary tenements of those manors. In this respect, the duke (without reference to any actual right) appears to claim no more than any other owner of the soil in the county. If bounds exist on his wastes, or conventionary tenements, the bounders pay him the tolls, just as they would pay any private individual owner of the soil.

"The owner of the soil has an option of taking the bounds, and, at times, when the owner has been a resident gentleman, he has chosen to take the bounds, and has demised the right of working them to those whom he might know, and with whom he might wish to deal; he would naturally prefer a tenant of his own choice to one imposed on him by the custom. But the Duke of Cornwall, from his station, and many from choice, do not elect to work the bounds on their respective lands. The boundowners, therefore, not owners of the soil, having the right to work, often demise that right to others; these last are the actual miners, and are subject to two demands—that due by custom to the owners of the soil, and that due by compact to the owner of the bounds; and, without meaning to imply there is any strict analogy, it may be assimilated, by way of illustration, to the position of the farmer who pays tithes to his clergyman and rent to his landlord. From this it will appear, that the right to the boundowner's proportion (sometime called tin dues, or farm dues), and that to toll tin cannot legally clash; the tin-worker must pay both, and it is his own fault if he chooses to take a sett as a demise of bounds is called, at a rate which leaves him no profit after toll-tin and toll dues are paid. Generally, the owner of the soil, or toll, may look to the bounder for payment, the actual worker of the mine being, as regards him, the agent or servant of the bounder, and with whom the owner of the soil has no priority."

THE MINING DISTRICTS.

In the first edition of this work, a short description was given of the different mining districts, and the mines in each were placed under their respective heads. It will be impossible, however, to observe that order now. Many of the mines there described have long ceased to work; whilst others then not heard of have come into active operation, the statistical accounts of which I have not yet been able to obtain from official sources. I propose, therefore, first, to give the original sketch of the districts as they were then divided, and the statements of the mines to follow (without any regard to particular arrangement), as I may be able to bring their statistics to the latest possible period.

THE MINING DISTRICT OF GWENNAP.—This district, whether as regards the magnitude of mines in operation, or the enormous profits made from them, ever has been, and still is, the most important in Cornwall. The profits made from mines not now at work may be estimated at above 1,000,000*l.* sterling; whilst the mines now working have yielded at least another 1,000,000*l.* The district includes portions of the parishes of Redruth, Gwennap, Perranworthal, Kea, and Kenwyn; its rocks are the north-eastern skirt of the great granitic range of Stythians, Wendron, &c., and the mass of granite forming Cairn Marth and Trefula Beacon, and the slate rocks in contact with them; the whole is traversed by numerous elvan courses, lodes, cross-courses, and flookans, in cross veins composed of clay, and is by far the most extensive, as well as the most productive, mining district in Cornwall, particularly in copper ores. The mineral composition of the granite is much the same as in the other districts—viz.: a basis of felspar, quartz, and mica, enclosing crystals of felspar, and, occasionally, quartz. In many places schorl abounds. At Tresavean, a schorl rock intervenes between the granite and the ordinary slate of the district; and in Wheal Beauchamp, also, a similar rock prevails. Whenever the nature of the surface will permit, varieties of slate are seen in the Gwennap moors, and, near Trevarth and Comfort, a greyish buff and blue-coloured slate passes through Ale-and-Cakes, the eastern part of the Consolidated Mines, and the Union Mines; but in all cases it assumes a darker hue at greater depths, and, generally speaking, the lodes are less productive in this deep blue slate than when lighter tints prevail. The cleavage dips towards the south-east, with but few exceptions. The elvan courses are very numerous in this district; the most northerly one is on the north of Wheal Peevor, and may be traced across the common as far east as North Briggan, where it has been quarried; it dips north, and is from 6 to 8 fms. wide. Another elvan has been extensively worked in several places at Treleigh, north of Redruth, passing through Cardrew Downs and Treskerby; it is from 8 to 10 fms wide, and dips south; at Cardrew it sends off shoots into the slate. There is an elvan also in the adit, at Wheal Buller, and again seen at the 70 fm. level; another in Beauchamp engine-shaft, at a depth of 30 or 40 fms., is only 3 fms. wide, whilst, at 70 fms. deep, its breadth is 30 fms. The great elvan, rising north of the valley leading into Unity Wood, has been extensively worked for tin ore, which is abundantly sprinkled through it. The next elvan course passes through Wheal Unity and Poldice, and is intersected by many of the workings of Creeg Braws. The elvan courses abound in irregular joints; they are commonly several fathoms wide, and their composition, veins of compact felspar, usually of a greyish-buff or pale pink hue, mixed with some silicious matter, and generally containing masses of crystalline felspar, and often, too, double-pointed crystals of quartz; schorl not unfrequently appears in radiating crystalline groups, and ferruginous matter is very largely dispersed through them. As the mines long since abandoned will not be referred to separately, it will be as well, perhaps, to name the principal of them here, with the profits made by each:—Wheal Abraham, Crenver, and Oatfield, profits 150,000*l.*; Wheal Basset, 100,000*l.*; Herland, 90,000*l.*; Wheal Chance, 150,000*l.*; Wheal Music, 100,000*l.*; Wheal Spinster, 80,000*l.*; Wheal Speedwell, 60,000*l.*; Treskerby, 200,000*l.*; Union Mines, 50,000*l.*; Binner Downs, 100,000*l.*; Wheal Trannack, 20,000*l.*; Wheal Trenwith, 40,000*l.*; Wheal Tolgus, 50,000*l.*; Wheal Leisure, 110,000*l.*; Great Wheal Towan, 250,000*l.*; Wheal Jewel, 200,000*l.*; Buller and Beauchamp, 80,000*l.*; Ting Tang, 200,000*l.*; Poldice and Unity, 250,000*l.*

THE MINING DISTRICT OF CAMBORNE AND ILLOGAN.—This district is comprised within a tract, bounded on the east by the valley which divides Illogan from Redruth, on the south by the ridges of Carn Brea, Cairn Entral, and Camborne Beacon Hill, on the west by a line from Camborne Beacon Hill, to about half-a-mile north of Camborne Church, and on the north by a line parallel to the highway from Camborne to Redruth. The rocks of this district consist of an elevated range of granitic hills on the south, covered on their northern slope by varieties of slate, and intersected by elvan courses, and by numerous lodes and cross-courses. The alternations and mixtures of granite and slate are very remarkable, and this district affords many excellent examples of elvan courses. The principal lodes of this district have a bearing varying from 20° to 40° south of west, some dip north, and others south; the main lode, and Harriott's lode, in Dolcoath, the principal lode in North Roskear, two of the chief lodes in Cook's Kitchen, and the principal in Tincroft, dip towards the south; but in the same mines, and in East Wheal Crofty, there are other lodes, inclining to the north, which have also been very productive. There are several caunter lodes (or lodes bearing from 10° to 30° north of west) in this district, and the greatest produce of East Crofty, Wheal Crofty, and Dolcoath, have been derived from them; but the principal operations are on two parallel lodes, one passing through Stray Park, Dolcoath, Cook's Kitchen, Tincroft, and Carn Brea, and the other through North and South Roskear, Wheal Crofty, East Wheal Crofty, and East Pool; yellow copper is the largest product of this neighbourhood, though several mines have yielded native copper, and also grey and black copper ore; tin ore is also raised in large quantities from Tincroft, Carn Brea, Cook's Kitchen, and Dolcoath, and small quantities from East Pool. In one of the lodes, at Colcoath, native silver, and vitreous, and silver ore, were found, and a piece of plate was manufactured from it, and presented to the late Lord de Dunstanville by the adventurers in that mine, and is still preserved in the family as an heir-loom. Cobalt and bismuth have also been found in Dolcoath, and in the lodes of North Roskear and East Wheal Crofty small quantities of mineral pitch have been discovered.

THE EASTERN DISTRICT.—This district, which may be said to have sprung into celebrity within the last few years, is daily becoming more extensive and important, numbering among its mines not only the celebrated Fowey Consols, Par Consols, South and West Caradon, Trelawny, Herodsfoot, &c. in Cornwall, but extends to Devonshire, and includes the celebrated Wheal Maria, or Devonshire Great Consols. In this district will also be included the mines of St. Austell, Callington, Liskeard and Tavistock. The St. Austell district is principally stanniferous, the copper lodes being chiefly confined to its south eastern side, as in Fowey Consols and Crinnis; the neighbourhood of Callington is both stanniferous and cupriferous, with a few silver lodes. At Wheal Duchy, near Callington, a silver lode was found in the 10 fm. level, worth 200*l.* per fm., and from which 3000*l.* worth was raised. Dartmoor is stanniferous; the mines around Tavistock are cupriferous. On the north are the lead lodes of Wheal Betsy and Lidford, and on the south the argentiferous lead mines of Beeralston. In 1812, silver was raised from Wheal Brothers to the amount of 3000*l.* On the north of Tavistock there are manganese mines; and manganese has also been obtained near Calstock. Iron, as a brown hœmatite, is found of rich and excellent quality near Lostwithiel and Bodmin; and cross-courses holding iron ore occur in a north and south direction at Nantallan Downs and Lanivet Downs, near Bodmin; and between 1778 and 1802, 9293 tons of iron were shipped from a lode near Combemartin to the iron-works at Llanelly, in South Wales. The lodes in this district generally run east and west; but a powerful cross-course traverses Wheal Franco, heaving the lodes to the right, taking a direction thence towards the south western part of Tavistock. Several fine lodes of rich hœmatite iron ore are found in this district, which have been worked at various times, and micaceous iron ore is found at various places upon Dartmoor, and under the name of "Devonshire sand," was some years since used in London as writing sand, selling at 3*l.* 3s. to 8*l.* 8s. per ton. Magnetic iron ore, of good quality, has been worked near South Brent, Devon, and at Penryn, Cornwall. And, according to Sir H. T. De la Beche, a large supply of good hœmatite iron ore could be readily obtained from this district, if the necessary demand existed. A great many new mines have been set to work, particularly in the neighbourhood of South Caradon; but the majority of them are not sufficiently developed to report upon, only the principal, therefore, will be noticed. In the neighbourhood of St. Austell, there are several stream tin works, the principal being "Happy Union," in Pentuan Vale, Near St. Austell. This valley is a continuation of St. Austell Moor, where, for many years, a great quantity of tin has been got by streaming.

[*To be continued in next week's Mining Journal.*]

Mining Correspondence.

ENGLISH MINES.

ANTIMONY AND SILVER-LEAD.—Capt. James Hosking, of Callington, reports—In compliance with your request, I have carefully and minutely inspected this mine. In driving the Marlborough adit, a promising lead lode has been intersected; it varies in size from 1 ft. 6 in. to 6 in., containing gossan (such as I have not seen for many years past on the back of a lead lode, except at the adjoining mine, Wheal Sarah), prian, soft spar, spathose iron, and silver-lead ore of an excellent quality; there are in this adit several branches, containing mineral, which no doubt belongs to the main lode, and, from their respective angles of depression, will ultimately form a junction at a certain depth. They have driven about 3 fms. on the course of the lode; but, from the disturbed state of the strata, the lode has been found to be very irregular, so that there is no possibility of taking its exact bearings; a winze has been sunk on the lode 3 fms. below the adit level; here the lode was found to be more regular and compact; but, in consequence of the water being so powerful, they were obliged to suspend operations. From this winze a parcel of silver-lead ore has been broken, which is now in course of dressing and getting ready for the market. Further south, another lode has been opened on in the shode pits; it is precisely of the same genial character as the former one—good stones of lead ore, broken a few feet below the surface on the Wheal Sarah lode, which passes through the sett on the other side of the valley. Shode pits have been sunk, and large stones of gossan, containing silver-lead ore broken from it; an engine-shaft has been sunk about five fathoms, which is intended to intersect these lodes at a certain depth. The Wheal Sarah lode underlies west, and the main lode east; so that, at the depth of 70 fms. below the surface, these lodes will form a junction. From the genial character of these lodes, and the beautiful strata that surrounds them, there is every reason to expect that this mine will, if properly developed, prove a valuable speculation. From the antimony lode, several tons of ore have been broken, and a parcel is now ready for the market. There are large rocks of solid antimony broken from the lode, and the tributers now employed on this important part of the mine are earning fair wages, at 3*l.* 10s. per ton. From present appearances, there is every reason to expect, after the lode is fairly opened on, the workings drained and cleared of rubbish, &c., that remunerative returns will be made, and employment given to a great many miners. There is a never-failing stream of water passing through the sett, sufficient for washing the ore, &c.; but for the draining of the mine, crushing, stamping, &c., steam-power will be absolutely necessary. I should recommend the driving Marlborough adit without delay, the erection of a steam-engine, and sinking of the engine-shaft, as fast as possible,

ASHBURTON UNITED.—Capt. J. Kernick (November 13) reports—The Brothers' lode is cut in Hobson's 14 fm. level; we have cut through it 2½ ft.; the north portion is composed of mundic and spar, and the southern portion, to the extent of 9 ft. wide, consists of grey, black, and yellow copper ore; there is a great quantity of green oxide interspersed throughout. The north tin lode, lately cut in Hobson's 45 fm. level, is likely to afford a good addition of tin ground, as it is in whole ground from the 45 fm. level to the surface; we shall cut it in two other cross-cuts, in the same level, in a few days. The returns and prospects of the pitches are just as last reported.

BARRISTOWN.—Captain T. Angove (Nov. 10) reports—We have intersected no lode in the cross-cut in the 27 fm. level since my last. The lode in the 16 fm. level end east, is still without much improvement—small, with spots of ore only. In the adit end east we have a good course of ore, producing about 1 ton per fm. We shall have a cargo of 25 tons ready for shipment about the first week in December.

BEDFORD UNITED.—Captain J. Phillips (Nov. 15) reports—At Wheal Marquis, the ground in the engine-shaft continues favourable for sinking; we have reached the south wall of the lode in the 90 fm. level, and hope, in my next report, to be able to state its size and character. There has been no lode taken down in the 80 fm. level. In the 70 fm. level east we are driving by the side of the lode; the south wall of the lode has been occasionally broken, and yielded good stones of copper and lead ore; so far as the lode has been seen, it is very kindly.

CARTHEW CONSOLS.—Captain W. H. F. Stephens (Nov. 15) reports—The intention of setting the 66-in. cylinder engine on this mine to work on Monday last, drew the attention of a great number of highly respectable gentlemen, from Wadebridge and its vicinity, to witness her first moving by aid of steam power; and about four o'clock p.m., they, with myself, had the great gratification of beholding her first stroke, which was made with much satisfaction to every one present; and, after a few minutes, she went off with equal steadiness to an engine that had been in a regular train of working for 12 months, which reflects no little credit on the engineers; and, after a few trifling alterations and fittings yesterday, she was set to work for good. We have dropped our lifts to the 10 fm. level, which level will, I expect, be unwatered by to-morrow morning, and will most likely give us access to tribute ground, as well as the opportunity of speedily extending our workings north and south. Our sumpmen will immediately be engaged in cutting down and securing, if required, the shaft from the adit to this level. At the valley, we have had the water-wheel at work during the past week; but, consequent on the insufficient supply of surface water, we have not yet been able to get to the 10 fm. level. The springs no doubt will be much higher in a short time, and, with a small increase, we shall have a sufficient supply, as we are enabled to fork 7 fms. below the adit with the present stream; the lode in the adit end, at this place, looks very promising indeed, being about 4 ft. wide, composed of a beautiful soft white spar, large quantities of mundic, and very good stones of yellow copper ore, with a lesser amount of lead; this end we shall drive on with vigour, for the purpose of intersecting the east and west copper lode, which is a very important point, as also we shall the adit end south for the same purpose, at the upper or old mine, as soon as we shall get this level thoroughly cleansed. From the direction of the copper lode, we estimate having about 17 fms. to drive in the adit level, at the old mine, to intersect it, and about 20 fms. in the valley adit end, which two ends will intersect the same lode at about 100 fms. apart.

COMBLAWN.—Capt. J. Hosking (Nov. 16) reports—We have driven since last reported on cross-course, in the 20 fm. level, 9 ft., and I am happy to inform you that we have intersected the main lode, it is 15 in. wide, but as might be reasonably expected in a disordered state as it neared the cross-course, it is composed of soft spar, prian, spathose iron, peach, and silver-lead ore. I have set the men to drive west on it, and we fully expect, from the nature of the lode in the bottom of the 15 fm. level, to see a decided improvement in driving about 10 feet on its course.

CWM ERFIN.—Capts. A. Francis and S. Nicholls (Nov. 11) report—We have just come to a close with our pay and setting, and am happy to be able to inform you that our prospects for raising ore for the future are bettering. We have let the end, east of the engine-shaft, in the 20 fm. level, for 4*l.* 10s. per fm.; there is a branch of ore in this end that will leave profits when we come to stope it away, which, I suppose, will be at our next setting. Our 20 fm. level west is driven on the south part of the lode; we have put the men to drive north through the lode, at 4*l.* 15s. per fm., and we may expect to be into the western ore ground in the course of a fathom or two. We have put two men to stope over the 10 fm. level, about 10 fms. east of the engine-shaft, which, I think, will yield a sufficient quantity of lead to pay for stoping, and leave a small profit. We have two men stoping on a pretty good lode, west of the rise, over the 10 fm. level, and have put 6 men to rise and stope on a very good lode; our two-men stopes are set at 40s,, and the six-men stope at 42s., per fm. The level on the west side of the hill is driving at 15s. per fm. in a nice looking lode. We have taken on 2 men more than before, and I fancy the lead we shall raise will about pay the cost of the mine; and, should our 20 fm. level open ore-ground, as we may reasonbly expect, we may calculate to give profit from next month. We have suspended our tribute ground for the present.

DEAN PRIOR AND BUCKFASTLEIGH.—Capt. H. Choake (Nov. 15) reports—I stated in my last report that we had discovered the capels of the lode; we have cut through the north branch, or limb, of the lode, being about 10 in. big, composed of capel, and spotted with ore; this part of the lode has been dwindling away, as may be discovered in the levels above, which is greatly in favour of the south part making as this diminishes; and in the winze sunk under the level above, the south part was considerably improved, and a greater improvement may be expected at this level; a few days will determine, as the present end indicates, by water and the dip of the ground, that the lode is near. Driven in the past week 4 ft. 9 in.

— Capt. J. Carpenter (of Wheal Anderton) also reports (Nov. 13)—I have been daily expecting to hear that the north wall of the lode in the 40, at Dean Prior, had been cut, as I perceive from your note and the Journal, the capel, or north part of the lode, had been intersected between the 20 and 30 fm. level; there is a division in the lode—the north part composed of a harder substance than the south, being designated a "capel," which indicates nearing the main lode, but possibly may be decided by a horse, or run, of killas; in the 30 fm. level this killas was wearing out, not being so thick between the capel and the south part of the lode, which gave me reason to believe that the south part of the lode, in depth, would, by its more perpendicular dip, destroy the killas, and both parts concentrate; this, however, may be the case, which will be seen shortly. A capel, running parallel with a lode, is considered by practical men to be a good indication—and I think it is, in most cases; it is certainly a guide for the miner to know, if he comes against a capel, the main body of the lode is near; and, on the other hand, when he cuts through it, he believes he has all the lodes *vice versâ*. The capel is an incrustation of a hard substance, not like the composition of the strata—being generally of a more flinty nature and dark colour; but when impregnated with ore, we conclude the lode is more likely to be productive, as the ore must certainly have emanated from the main body when a convulsion of Nature took place, which some of us are led to believe must have been the case in a lode's primeval state.

EAST CROWNDALE.—Captain S. Paull (Nov. 12) reports—In the past week we have made a considerable discovery on Thomas's lode, to the east of Diamond's shaft. In cutting through the lode, which is 10 feet wide, we have broken some excellent work, and developed one of the most splendid lodes hitherto seen in this locality. The character, composition, and general appearance of the lode warrants my giving you a most flattering description of the mine, without the least exaggeration—ultimately it will be proved what she will do. The lode in the adit level, driving west, has not been taken down in the past week; the appearances are favourable, and I hope next week to give you a good account of this place. The winze below this level does not look so well as I could wish; the tin is in small branches, and the lode is principally composed of killas; the stopes in the back of this level are looking very well, the tinny part of the lode being more solid; it is composed of peach, prian, spar, mundic, and tin, worth about 25*l.* per fm. The tin sold from the mine fetched 46*l.* per ton.

GREAT MICHELL CONSOLS.—Capt. T. Richards (Nov. 15) reports—The lode in the 45 fm. level, west of the sump winze, is improving—the part, now being carried for about 3 ft. in width, contains mundic, peach, and spar, with ore intermixed throughout; the ground here is also easier of progress. In the 35 fm. level west the lode is without material alteration, composed of capel, spar, and mundic, with a little ore in places; the ground is very favourable for driving.

HERODSFOOT.—Capt. J. Medler and P. Dunstan (Nov. 13) report—The lode in the 106 fm. level south is 2 ft. wide, producing ½ ton of ore per fm.; in this level north the lode is divided into two parts—one part is cut through, and is 9 in. wide—poor at present; the other part we are now cutting through, which is producing good stones of ore; in the stopes, in the back of this level, the lode is 2½ ft. wide, producing ½ ton per fm. In the 94 fm. level south the lode is 4 ft. wide, producing 1½ ton per fm.; in this level north the lode is 1½ ft. wide, producing ½ ton per fm.; the winze below the level is holed to the 106. The lode in the 82 fathom level north is small and unproductive; in a winze, sinking below this level, 40 fms. north of the shaft, the lode, when last taken down, was about 2 ft. wide, producing a fair quantity of ore; in this level south we have not yet cut the lode, in consequence of the capels of the lode proving larger than we expected, but we hope to cut the lode in a day or two. In the 72 fm. level south the lode is 2½ ft. wide, producing ½ ton per fm.; in this level north we have not yet cut the lode to the north of the slide. In the winze, sunk under the 52 fm. level, south of Windsor shaft, we have driven 2 fms. north; the lode is 20 in. wide, producing good stones of ore. The present appearance of the tribute ground is as good as it has been for the past three months.

HOLMBUSH.—Capt. William Lean (Nov. 14) reports—In consequence of the breakage of our whim ropes so often within the last few days, the shaft-men have been, and still are, repairing the damage done by the accident in the shaft, &c., so that little or nothing has been done in the diagonal shaft. The lode in the 132 fm. level west is 20 in. wide, composed of capel, mundic, and stones of copper ore—ground still wet. The lode in the 120 fm. level south is 4 ft. wide, composed of quartz and stones of lead—ground at present hard; the lode in the stopes, in the back of this level, is 3 ft. wide, producing saving work. The lode in the 110 fm. level south is 3½ ft. wide, producing about 2 cwts. of lead per fm.; the lode in the stopes, in the back of this level, is 4 ft. wide, composed of quartz and stones of lead. The lode in the 100 fm. level south is 2 ft. wide, composed of soft white spar, prian, and spots of lead; the Flap-jack lode, in the same level east, is 2 ft. wide, composed of spar, mundic, and stones of copper ore of good quality, with favourable strata. The men employed here are at work from Monday morning until Saturday night. The copper branch in the 110, west of the lead lode, is small, and for the present suspended; the same branch, in the 100 fm. level, is 6 in. wide, producing large stones of ore; but is still mixed up with the lead course.

KIRKCUDBRIGHTSHIRE.—The agent (Nov. 11) reports—The lode in the 50 end, west of Stewart's shaft, is 4 ft. wide, with large spots of ore through it; the lode in the 50 end east is 2 ft. 6 in. wide, with stones of ore through it; the lode in the 50 end, west of Keith's, is 1 ft. wide, and unproductive; the lode in the 50 end, east of this shaft, is 2 ft. wide, spotted with ore. The 30 end, east of Stewart's, is still in black ground; the lode in the rise, in the back of this level, is 4 ft. wide, yielding 5 cwts. lead to the fm. We have got through the black rock in the 20 end, east of Stewart's, and have a strong lode, with spots of copper, jack, and sulphur through it, and a small branch of lead making in the bottom of the end. The lode in the 40 end, west of Keith's, is 3 ft. wide, carrying a branch of spar, spotted with ore, in the middle of the end. The wheel is now finished, and we shall be ready to work in a week or ten days from this.

MENDIP HILLS.—Capt. F. C. Harpur (Nov. 13) reports—I have nothing particular to communicate this week; we continue to press forward with our different operations as fast as possible in the slag ground; the beds of stuff continue much the same, both in thickness and quality, as for some time past, being from 15 to 20 ft. deep, containing some tolerable good work for slags. During the past week we have worked the furnaces three days, and hope to see them engaged about the same time in the present week. The lode in the 88 end is without any alteration whatever, composed of flookan, spar, and iron.

SOUTH WHEAL TRELAWNY.—Capt. W. Jenkin (Nov. 13) reports—The lode south of the cross-cut, in the 30 fm. level, is 2½ ft. wide, and improved in character, composed of fluor-spar, mundic, and killas, with sprigs of lead, and ground favourable; the lode in the 30 fm. level, north of cross-cut, is still heaved by the cross-course; we are also driving east, trying to intersect it; the sparry branch, near the shaft, in this level, is unproductive. The water is just as usual.

SOUTH WHEAL MARIA.—Capt. George Francis (Nov. 16) reports—The lode in the 20 fm. level, east from the engine-shaft, is about 3½ ft. big, spotted with strong yellow copper ore throughout, in rather a hard capel—driving about 6 feet a week. I have great confidence in shortly being able to report more favourably, as we approach east towards the river Tamar, this being the most promising part.

TAMAR SILVER-LEAD.—Capt. James Sprague (Nov. 6) reports—In the engine-shaft the lode is 15 in. wide, composed of quartz, spar, and mundic. In the 175 end the lode is 1 ft. wide, composed of capel, with spots of ore. In the 160 end the lode is 2 ft. wide, 18 in. of which is good work—this end has improved very much since last report. In the 145 end the lode is 18 in. wide, composed of can and ore—a very promising end. In the 135 end the lode continues its size and quality, about 4 ft. wide, composed of capel and ore, saving work. At north mine, the engine-shaft is sunk 10 fms. below the 70 fm. level, the ground is still very hard for sinking. In the 70 end, driving north, the lode is 4½ ft. wide, interspersed with ore, and producing work of a promising character. Silver-lead ore sold in London, November 14, 77 tons, at 17l. 17s. 6d.—1376l. 7s. 6d., purchased by Tamar Smelting Company.

TIN VALE.—Captain James Hoskin (Nov. 11) reports—We have this day resumed the workings in Rose's adit, on the branches, and set two pitches (one east and the other west of cross-cut) at 10s. in 1l.; although the workings in this part are rather confined, still we hope, from present appearances, to make good returns; the success of these pitches will lead other tributers to try different parts of our various openings; we have set the end to drive west on middle lode, by three men—price given for driving, 1l. 15s. per fm.; the lode is full 2 ft. wide, producing a little tin; our main object at this point is to drive this level with all speed, to intersect the great caunter lode; we shall continue to open ground, and develope the resources of this part of the mine as extensively as possibly we can with the number of hands we have now employed. Relative to the intended workings in Floyd's adit, I beg to say, that I cannot at present enter into detail on it; but will, after minutely surveying it, advise you as to the prospects and necessity of driving south to intersect the various branches discovered in shoding at the surface. We have also set the Standfire stream-works to six men, at 8s. in 1l.; as there is a considerable space of virgin ground north of the present workings, there is not the least doubt of our making satisfactory returns.

TRENANCE.—The purser, R. Dalton (Nov. 8) reports for the month of Oct. and settings for Nov.—No. 1. The deep adit level east, to drive, as directed, by three men, at 3l. per fm.; this level, which has been driven this month between 3 and 4 fms., presents, on the bottom of it, a very regular course of grey ore, for about 3 fms. We had, during the month, been driving a little towards the north, by a piece of serpentine dropping in, but having now resumed east, we have again come in with the ore, which appears to be going down, the top of it now being only about 1 ft. above the bottom of the level.—No. 2. The deep adit south-west level, to stope, as directed, by two men, at 2l. per fm.; this level, which has been driven from the winze about 7 fms., and not having come in with ore of any moment, we have commenced stoping down the back, and, by following a vein of ore which is seen there, endeavour to discover the direction of the principal leader.—No. 3. The 12 fm. south-west level, to stope up, as directed, by 2 men, at 2l. 2s. per fm.; the above is not looking so well as last week. We are now taking down the foot wall, in which we find grey ore and malleable copper. I think the general appearance of the mine has improved since last month. I like the look of the 20 fm. east level, where the ore is going below it. The buildings are progressing but slowly.

TRELEIGH CONSOLS.—Capt. W. Symons (Nov. 11) reports—In the 113 fm. level cross-cut, north of Garden's, driving to cut the main lode, we have driven through the southlode. In the 100, west of Garden's, lode 2½ ft. wide, more promising than it has been, with very little ore. In the 90, east of east cross-cut, lode 2 ft. wide, worth 8l. per fm. In the winze, below the 90, lode 3 ft. wide, much as last week, worth 14l. per fm. In the 70, west of ditto, lode 2½ ft. wide, but little ore. In the 60, west of ditto, lode 14 in. wide, with stones of ore only. In the 50, west of ditto, lode 2½ ft. wide, orey, but not to value. Wheal Parent engine-shaft, below adit, sinking in the country, the ground much as usual. In the adit east, on middle lode, lode about 10 in. wide, no mineral.

WEST WHEAL JEWEL.—Capt. Richard Johns (Nov. 13) reports—In the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is not taken down in the past week. In the 57 fm. level west, on the same lode, the lode is 15 in. wide, worth 4l. per fm.; in the 57 fm. level east, on the same lode, the lode is 16 in. wide, worth 5l. per fm.; in the rise, in the back of the 57 fm. level, west of Williams's cross-course, on the same lode, the lode is 2½ ft. wide, worth 8l. per fm. In the 47 fm. level west, on the same lode, the lode is small and unproductive; in the deep adit, west of Hodges's cross-course, on the same lode, the lode is unproductive. In the 80 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is 2½ ft. wide, producing stones of tin; in the deep adit, west of Quarry shaft, on the same lode, the lode is 3 ft. wide, looking kindly for tin. The stopes west of Pryor's winze, in the back of the 12 fm. level, on Tolcarne tin lode, is working on tribute, worth 80l. per fm.; the stopes, in the back of this level, now working on tribute, east of Pryor's winze, are worth 18l. per fm.; the stopes in the bottom of this level, now working on tribute, worth 24l. per fm.

WHIDDEN.—Capt. J. Kernick (Nov. 13) reports—Caunter's shaft is sunk below the deep adit as far as we can draw the water with a break-staff, and the shaftmen are now cutting ground to erect a man-engine. The lode in the shallow adit end is still large and coarse; this end has about 10 fms. more to drive in order to reach that strata in which there are such extensive shallow excavations, in the summit of the hills eastward, the remains of ancient tin-workings.

WHEAL BARBARA.—Captain W. H. F. Stephens (Nov. 15) reports—We are driving in the 16 fm. level east by six men, and in the same level west by two men; the reason of our being the more vigorous in the first-mentioned end is, that in the adit level, about 10 fms. ahead of this end, we find the lode to be much larger, and more highly mineralised than at a similar distance west; in the east point the lode is about 10 ft. wide, and its properties are very indicative of mineral; and, from its being more pregnated with copper than load in its apparently settled state here, we might be led to suppose we should meet with a bunch of copper rather than lead in the 16 fm. end, approaching this point, where we find the lode gradually widening as we open on its course; it is now about 4 ft. wide, composed of white spar, flookan, a quantity of mundic, with copper intermixed, but not enough to save for work; in the west end the lode is about 2½ ft. wide, with productions similar to those in the east end, with the exception of a little lead instead of copper. Upon the whole, this mine's appearances are more favourable than lately reported.

WHEAL INDUSTRY TIN MINE.—Capt. W. Thomas (Nov. 6) reports—We have now about 3 fms. to drive to cut the north lode; the ground is very good for driving, we are paying 20s. per fm.; the end driving east is favourable for driving—this end is about 7 fms. from two other branches, and I have no doubt we shall cut them both in about one month; there can be no doubt, we shall raise rich tin from the north lode and these branches. We have cut the caunter lode, which produces very good ore, fit for the stamps—it is a very kindly lode indeed. We have now at surface a good pile of ore; the principal part of it is rich.

WHEAL MARY ANN.—Capt. Peter Clymo (Nov. 13) reports—The lode in the 50 fm. level, south of the boundary, is 2 ft. wide, and worth 12l. per fathom. Barratt's shaft is suspended on account of an increase of water; this shaft is sunk 7 ft. under the 40 fathom level, where the lode is 2 ft. wide, and worth 24l. per fm. The lode in the 40 fm. level, south of Barratt's shaft, is 5 ft. wide, and worth 8l. per fm.; the lode in the 40 fm. level, north of Pollard's shaft, is 2 ft. wide, and worth 7l. per fm.; the lode, in the same level south, is 1½ ft. wide, and producing good stones of lead at present. The lode in the 30 fm. level, south of Pollard's shaft, is 2 ft. wide, and worth 8l. per fm.; the lode in the rise, in the back of this level, is 1½ ft. wide, and worth 3l. per fm.; the winze, sinking under this level north, is suspended, on account of an increase of water. In the winze, sinking under the 15 fathom level, south of Pollard's shaft, the lode is 1½ ft. wide, and producing some good stones of lead. All the stopes are looking well. On Tuesday last, we sampled 66 tons of lead ore, which will be sold on Wednesday next.

WHEAL PENHALE.—Capt. W. H. F. Stephens (Nov. 15) reports—In the 10 fm. level, at this mine, we have cut about 5 ft. into the lode, which produces very good work for lead throughout, with very fine stones of grey and yellow copper interspersed, but can as yet give no idea of its real width, which must be great; this lode gives us every reason to expect large returns from this level, as well as the satisfactory evidence of a non-failure in the lower ones, when we shall attain to them. We shall proceed to sink for a 20 fm. level immediately on getting through the lode in this. In the winze being sunk from adit to the 10 fm. level, we have a twofold object—*i. e.*, to ventilate the last-mentioned level, and to prove the lode between the two, which I feel much pleasure in saying is quite satisfactory, as far as we have sunk, which is about 3 fms., where we have found, and do at present find, the lode to be about 5 ft. wide, and very regular, carrying on its foot-wall a leader of lead, varying from 6 to 12 inches in width, the other portion of which is composed of a beautiful spar, prian, gossan, and rich grey and yellow copper, making very good work for copper. The lode in the adit end is from 4 to 5 ft. wide, composed chiefly of spar and gossan, with very fine stones of lead, and a smaller portion of copper, looking very promising indeed for deeper levels; we shall, next week, resume the sinking of Becker's shaft, to communicate with this level. In the lapse of a short period, we expect to be raising a much increased quantity of work in lead and copper; and for facilitating the dressing of the same, we shall immediately proceed to the erection of the grinder (a great portion of which is on the mine), as well as the smithy and carpenter's shop, for facilitating the other departments of the mine.

WHEAL TREMAYNE.—Captains J. Phillips and W. Blewett (Nov. 11) report—Since the last report we have discovered, in the bottom of the 70 fm. level, west of Hockin's shaft, on Prisk's lode, a good branch of copper ore and tin, worth 8l. per fm.; we have on this lode 23 fms., from Hockin's shaft to the flookan, which is likely to prove a good piece of ground. In the 50 fm. level, west of Maddern's shaft, on the south lode, the lode is 1 foot wide, producing moderate work for tin. In the 30 fm. level, west of Field's shaft, the lode is 2½ feet wide, producing 2 tons of copper ore per fm.; the ground very soft, giving 21s. per fm. for driving; we are now getting under the bunch of ore we first discovered at Wheal Margaret; we have now four pitches working in the back of this level, three at 5s., and one at 4s. 6d. We shall be able to increase our copper sampling next time very much. In the 53 fm. level, west of Pollard's shaft, on the engine lode, the lode is 10 in. wide, producing stones of tin; we are now under the new shaft, and shall commence rising at once, and also to sink the shaft, to communicate as early as possible. The stopes in the bottom of the 40 fm. level, west of the new shaft, are still looking rich for tin. The branches about Allen's and Rowe's shafts are also continuing to raise rich work for tin. The other parts of the mine are much the same as they have been for some time past.

WHEAL TRELAWNY.—Captain John Bryant (November 14) reports—At Phillips's shaft, in the 72 fm. level, we have opened on the lode 6 feet, where it is 3 ft. wide, composed of spar, can, and lead, worth 11l. per fm. In the 62 fm. end north the lode is still large, and worth 18l. per fathom; in this level south the lode is worth 6l. per fathom; the stopes, in the back of this level, are improved since my last report. The ground in sinking Trelawny's shaft, under the 52, is still rather hard. In driving the 22 cross-cut east we have met with a small branch, composed of carbonate of lime, the stratum about it is a compact killas, with more water issuing out of it than we have lately had. The lode in the 52 end, north of this shaft, is 4 ft. wide, composed of capel, spar, can, and lead, worth 8l. per fm., the ground is at present rather hard; the stopes, in the back of this level, are also improved since my last report. The 42 end north is suspended, being extended to Trehane boundary; we have put the men from this end to stope the backs, where we have a good lode; the other stopes, in the back of this level, are much the same as last reported. In the 30 end, north of Smith's, we have a very promising lode, and just ore enough to pay for driving; there is no change of importance in the winze south of this shaft. We sampled, on Saturday last, a parcel of ores, computed 96 tons, which will be sold on Monday next.

FOREIGN MINES.

COPIAPO MINES.—The following is the mine report for July:—

Copiapo, Aug. 30.—Checo Mine.—I returned from this mine on the 18th inst., where I found all the operations being carried on exceedingly well, but no new discoveries of any importance. In the winze sinking below the 30 fm. level, to the east of Harman's shaft, we have a large fine looking lode, producing some very rich ore at times, but nothing regular—have broken from it about 3 tons in the last month, with two native miners. In the 35 fm. level, driving to the west of Harman's shaft, we have had a good vein, about 1 ft. wide, of 30 per cent. ore. The stopes on the north lode, in the back of the 12 fm. level, are yielding pretty well; the vein is 4 ft. wide, about 10 in. of which is very good ore. The winze sinking below the 20 fm. level, to the east of the Victoria shaft, has a very pretty appearance, and is producing some good stones of superior quality ore—I think not less than 40 per cent. I have great hopes of a speedy improvement here. These are the most important points where we are now working; but, until we discover something new, we cannot possibly increase the produce here.

Esperanza Mine.—I have also visited this mine in the last month, and could not but admire the vein, although the greater part of the ore is, as yet, of a quality that will not pay for shipment. We could raise a good produce here, if 15 per cent. ore would pay; we are, however, in great hopes that the quality of it will improve as we get deeper. We are driving a level and sinking two winzes in each of these works; the lode is large—say, 5 ft. wide—and containing a great deal of low quality ore, about 15 per cent., with some stones of 28 per cent. ore; of this we have dressed 3 tons, in the month of July.

San Juan Mine.—Here we are sinking only in one place, with two native barreteros, and have broken down the vein but once; it is 5 ft. wide, and contains some stones of fine ore; we have picked out a few quintals, and have great hopes of being able to report an improvement in my next.

San Pedro Mine.—In the 10 fm. level driving east, on the north lode, we have had a pretty little bunch of good ore; but, a few days since, we came in contact with the large slide that runs through this mine, which cut out all the ore, and dislocated the vein. We are afraid to penetrate the slide, as we are certain it would let in all the water from an old and very poor mine adjoining, that has been abandoned for years past. We have, therefore, put the men, formerly occupied in this level, to stope the back of it, where we have a good vein of ore, about 1 ft. wide. We have also had a good vein in a winze that we are sinking below the 10 fm. level, on this lode, which still promises to improve; it is now 10 in. wide, and very good. The 10 fm. level, on the main lode, is looking well also; it has a branch of ore in it, now 6 in. wide, of 35 per cent. ore. We have been obliged to suspend the 15 fm. level for the present, owing to the great increase of water, but hope to resume it shortly. I think, on the whole, this mine has improved since last reported on.

Produce at San Pedro for July		*Tons* 32
Ditto	at Checo for ditto	31
Ditto	Farellon dressed ore for ditto	10
Ditto	Esperanza for ditto	3—76 tons.

The *Jenny Jones*, 500 tons, arrived at Copiapo on the 25th August, to load a cargo of ore for the company.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

I am glad to find the rise in the price of tin and copper has already produced a good effect.

DRAKE WALLS MINE, where one engine has been suspended, and half the workings stopped for the last six months, is again set to work, and more men employed. The mine is looking exceedingly well, and leaving a profit to the adventurers.

HAWKMOOR (West of the Tamar), which has been partially worked by a party, who overshot their mark, by having too many mines working at the same time, and sacrificed this concern; but it was immediately taken up by two or three individuals, and set to work, who have cut into a fine course of ore, several tons of which I saw, a few days since, drawn to the surface. High prices have been offered for shares in this concern, but the present parties appear determined to keep the whole of this good thing to themselves.

SOUTH WHEAL JOSIAH is on the course of the same lodes, and is a new concern, of great promise. Several lodes are cut, with tin and copper showing near the surface, and is likely to prove a good concern, being situate joining the Great Devon Consols, and several lodes from that mine running direct into South Josiah. Shares here are to be obtained at 2l. 10s. per 256th.

WILLIAM AND MARY WORTH.—I went over the surface yesterday, and saw the tributers dressing up some rich silver-lead ore, worth 40l. per ton; and, in addition to the silver lode, there are two large tin lodes. It is a concern well worthy some outlay.—Another correspondent writes: This sett comprises the old Wheal Brothers, part of Harrowbarrow on the east, and down to East Cornwall. They are clearing up the old levels, and have set some pitches, from whence they have some tolerable good work for silver.

COOMB LAWN.—I am informed that they expect to cut the main lode at the 20 fm. level by the end of the week.

PHŒNIX MINES.—I learn they are at present only meeting costs; with a good crusher, and other requisite machinery, together with a little more spirit, there is every reason to calculate on fair profit, even at the present standard.

SOUTH CARADON.—This mine is looking better than it has done for a considerable time past. They have four levels driving east on Clymo's lode, which are at present very productive—nay, rich; they are not all driven to the same extent, but, of course, are indicative of an immense body of ore being deposited between the highest and lowest; besides, the quality is very superior—no doubt it would give an average per centage of full 12. They have also great hopes from their operations to the north part of the sett. They will, in a few weeks, get a shaft down, so as to enable them to drive back, and cut the north lodes, that have been, and, indeed, still are, so productive to West Caradon. The other parts of the mine are much as they have been for some time past I do not apprehend that many dividends will be paid from hence until the standard improves.

WHEAL VINCENT is an extensive sett, and one that would yield large returns if effectually worked; but it requires a pretty good capital to erect suitable machinery for working the mine properly.

[From the *Plymouth Journal*.]

WHEAL FRANCO.—The quantity of water in the end of the 62 fm. level has greatly increased since our last; this renders the driving still more difficult; it is, however, a sure sign that the leader of the lode is near. The other parts of the mine are unaltered.

WHEAL ASH.—The course of mundic in the shaft is without alteration.

EAST CROWNDALE.—The sampling for this month proves the Rix Hill lode to be good, the tin having realised nearly 500l. This is the Wheal Anderton lode, and proves it for those adventurers westward, and is highly encouraging to the Wheal Ash adventurers.

WHEAL ANDERTON.—The bottom of this mine is reported to be improved.

WHEAL YROLAND EAST.—The adit progresses favourably.

PLYMOUTH WHEAL YROLAND.—The dead ground has proved to be very shallow, and has been entirely removed. The shaft and eastern part of the new south lode are still good; in the western end the cross-course has been met with which has disordered the lode. The 34 fm. level is progressing very favourably.

BIRCH TOR MINES.—There is no change here.

WHEAL CALSTOCK is without any material alteration.

IMPERIAL BRAZILIAN MINING ASSOCIATION.

The half-yearly meeting of shareholders was held at the London Tavern, Bishopsgate-street, on Thursday last, the 16th inst.

JOSHUA WALKER, Esq., in the chair.

GEORGE THOMAS, Esq. (the acting director), having read the notice convening the meeting, and the minutes of the preceding one, the CHAIRMAN observed, that it was an old saying—"it was a long lane which had no turning;" they had had to traverse a long and dark lane, but he believed they had now come to the turning, and that the sun of prosperity was about to shine upon them. He could assure the meeting, that the directors had had most arduous and anxious duties to perform, and many, no doubt, thought it an act of great indiscretion to purchase another mining property in Brazil; but if those who so thought were aware of the difficulties of winding up an undertaking of such magnitude, and of the same description as theirs, they would give the directors credit for what they had done. The principal difficulty was their black population—they certainly could not turn them adrift, nor could they legally dispose of them; they, therefore, looked out for a new mining property, obtained one which they verily believed would be most amply remunerative, and well repay their patience and suspense. He felt highly grateful for the confidence reposed in the directors, especially at a time when they so much needed it.

The minutes of the last meeting were then confirmed, and Mr. THOMAS read the following directors report:—

The directors on this occasion have great satisfaction in meeting the shareholders, and submitting to them their half-yearly report of the state and prospects of the association, which fully confirms the opinion expressed at the close of the report on the 12th May—viz.: "that, although the delay of a few months might occur, yet that the bright prospects of profitable results, which induced the purchase of the lease of Bananal, had not in any respect become diminished since the association took possession of the property in March, 1847. The pump machinery, alluded to in the last report, notwithstanding every exertion on the part of the agents, and of the chief commissioner, remained at Rio until the 19th May, all endeavours by offers of high rates of carriage and otherwise having failed to induce the tropeiros to undertake their transport, because of the very heavy weight of many of the pieces comprising that machinery. On the 19th May, a large troop, which Mr. Henwood dispatched from the mine on the 2d of that month, for the express purpose of conveying them to the mines, arrived at Rio, and the directors are happy to say all the machinery was delivered safely at Bananal before the close of June. For the extra expenditure of this special troop, and the delay occasioned by the overweight of some of the pieces of the machinery, the directors consider they are fully entitled to compensation from the founders, to whom the directors have already applied, and will do so again when a promised statement of this expense is received from Brazil. Another working barrel (20-inch), was sent from Liverpool in September last; this will provide for any want that may arise at Bananal, and as due care has been taken to see that all the pieces are under 150 lbs. in weight, it will experience no detention at Rio.

On the 12th August Mr. Henwood, realising the expectation of the directors in the last report, that the vein would be worked as soon as the pumps arrived, writes as follows—"Bananal is now in a regular state of working, which we hope is not likely to suffer any long or serious interruption, though trifling impediments, you are aware, are inevitable." Of the value of Bananal as a gold mine, there can be now no reasonable doubt, if an opinion is to be formed from its reputation in former times, and from the successful results obtained by this association at one spot only—viz.: "Thomas's" shaft, from the vein, at which point, working in an imperfect and limited manner, with frequent interruptions, 142 lbs. 9 ozs. 10 dwts. 12 grs. of gold (including the 66 lbs. 5 ozs. 17 dwts. 12 grs. up to the 31st December, 1847), of the value of about 6500l., have already been raised; of this 62 lbs. 1 oz. 14 dwts. was the produce of the month of August last, since which time no further returns have come to hand. To the produce hitherto obtained solely from "Thomas's" shaft, an addition may now be expected from a new discovery, the importance of which, in the opinion of the chief commissioner, is apparent from the following letter from him, dated from Bananal, September 4:—

"It is my agreeable duty to acquaint you with the best news I have ever had to communicate from Bananal, or, indeed, from any other part of your property. On extending our adit level from 2 to 2½ fms. beyond all the old proprietors' workings, southwards of Hollingsworth's shaft, on the same series of veins (for their are several small ones), on which both their level and our own had been driven, we cut *a bunch of gold*, which has given us six boxes of work, estimated to contain from 8 to 10 lbs. of the precious metal. The productive part yet seen is only from 2 to 3 feet long; but the same vein continues as well upward and downward as in length, and the ground about them is favourable, although in the present end of the level their quality has declined. Gold to such an extent in unexplored ground (for all before us there is untouched, at a distance of 60 fathoms from the single spot where our previous riches have been obtained), is a discovery of such value and importance as has never, during my superintendance, gladdened your establishment. We all think it at least doubles the apparent value of the property. At Thomas's, the best report I can give is the inclosed duplicate gold returns from there for the past 10 days, and I am happy to say that the vein remains unaltered in quality. I have this instant left the bottom of the mine, and write in haste to save post, which I have already detained to the last moment possible. Had not our preceding reports been such as to raise your hopes, I should have sent a special messenger to Rio with this agreeable intelligence." It may be here observed, that Bananal gold dust, as it comes from the washing-house, is above the value of standard gold.

When the shareholders look at the facts, that the original period calculated by Mr. Henwood, as necessary to put the mine into operation, has only been exceeded, even including the delay occasioned by the non-arrival of the pumps, by four or five months, that no material increase has arisen on the original estimated outlay and expenditure—that the expectation of intermediate produce, and the results since July last, when mining operations may be said to have commenced, have been so nearly realised, the directors feel assured that the proprietors will recognise with them the sound judgment, prudent calculations, and unwearied exertions of the chief commissioner, and at once accord to that gentleman, and to every member of the establishment in Brazil, their thanks and approbation. Mr. Henwood has furnished a recapitulation to 30th June last, which contains most full and ample details of all the proceedings and prospects to that period; this document will be printed entire as an "appendix" to this report, and will well reward a careful perusal of the proprietors. The quantity of gold from Gongo, in the last six months ending 30th June, has been 86 lbs. 4 ozs. 7 dwts., and from the old stamps at Bananal, 3 lbs. 1 oz. 19 dwt., together 89 lbs. 6 ozs., and will, with some palladium sold, realise 3392l. 13s. 5d. The gross expenditure for the same period at Gongo, Bananal, and in England, exclusive of the drafts for the purchase of the lease, which have been paid out of calls received, has been 11,539l. 6s. 2d., or 294l. 15s. 3d. less than the last half-year, to which, adding a diminution of 816l. 1s. 4d. in the arrears of salaries, &c., shows a total diminution in the current expenses of the last six months of upwards of 1100l. The Gongo Mine has yielded a profit, in the last six months, over its own expenses of about 1200l. to 1500l.; notwithstanding which, the deficiency on the half-year on the total expenditure of the association is 8146l. 12s. 9d., arising from the heavy preliminary costs at Bananal in buildings, houses, adits, water-courses, shafts, &c., &c., and the circumstance that no gold was obtained from the vein in the bottom of the mine during that period for want of drainage power. Although some work in buildings, &c., still remains to be accomplished, the directors have reason to expect the present half-year's expenses, from a diminished number of labourers, &c., will be less than the past, and that Bananal, being now at work, the produce from that mine and Gongo will show a surplus. The auditors' statement of receipts and expenditure for the half-year ending 30th June, 1848, is as follows:—

By balance last account		£ 5,331	9 1
Cost of 569l. 9s., 3½ stock		481	18 6
General expenses—Gongo, Bananal, and London	£5976 11 0		
Salaries at ditto, 4812l. 15s. 2d.; ditto in London, 750l.	5562 15 2	11,539	6 2
Drafts of the chief commissioner, on account of lease of new mines, properties, &c., from 1st January to 30th June, 1848		6,138	1 9
Total		£23,490	15 6

By half-year's dividend on 30,547l. 18s. 10d., 3½ per Cent. Stock, less income tax		£ 481	18 6
Gold dust, per *Peterel*	£ 18 3 9		
Ditto, per *Crane*, 38 lbs. 8 ozs. 11 dwts. 20 grs	1602 10 10		
Ditto, per *Linnet*, 16 5 3 11	694 12 1		
Ditto, estimated—not received	903 0 0		
		3,218	6 4
Ditto, Bananal, per *Crane*, 2 lbs. 8 ozs. 19 dwts. 18 grs.	£ 149 11 9		
Palladium, 99 ozs., at 5s. per oz.	24 15 0		
		174	6 9
Calls—£2 per share, made 8th July, 1847	£ 446 0 0		
1 „ 16th Dec. „	4087 0 0		
10s. „ 14th June, 1848	2910 10 0	7,443	10 0
Balance		12,172	13 7
Total		£23,490	15 6

The establishment in Brazil, on the 30th June last, consisted of 644 persons, in good health and contented. The negroes continue to have every attention shown to them, with the view to the further improvement of their condition; and a striking proof of the care paid to their health and comforts will be found in the fact, that from 1832, to June, 1848, a period of 16 years, only 90 have died, including men, women, and children, showing an average mortality of but little more than *one per cent. per annum*. The directors, in their last report, stated the trustees had given up 2235l. 8s. 3d. stock from the reserve fund towards meeting the expenses, and had also borrowed 10,000l. upon a further part of that fund, which then amounted to 30,547l. 18s. 10d. stock 3½ per cent. The amount of the revenue fund, on the 30th June, was 31,117l. 6s. 7d. stock, and the debt chargeable upon it still above 10,000l. As the Bananal Mine now affords encouraging prospects of additions to the reserve fund from the 10 per cent., payable to it out of dividends (agreeably to the deed of settlement), the directors, to facilitate the early division of profits, have, with the consent of the trustees, decided to sell out the surplus of this fund beyond 25,000l. stock, and apply it towards the liquidation of the debt, and to commence the year 1849 with this latter amount as the "reserve fund." This sum, which, at the price of 80 per cent., represents 20,000l. in money, the directors consider, under the present favourable aspect of affairs, a sufficient security to the association; as, besides the accessions of the 10 per cent. from the profits, it will be increased by the investment of its own half-yearly interest. The directors, considering the difficulties of the times, and the heavy calls they have been compelled to make on the proprietors for the lease of the new mine, and for the general purposes of the association, and being most desirous to show every indulgence to the few shareholders who have not paid their calls, have not as yet forfeited any shares in arrear of the last two calls, together 30s. per share. They, however, feel that the time has now arrived when this indulgence should cease, and they, therefore, declare, that all shares upon which the payment shall not be arranged on the 30th inst., will be absolutely forfeited; the number at present in arrear is 116 shares.

The directors have presented to the Chamber at Rio a petition praying that the same amount of duty as is paid on the other mines worked by foreigners—viz.: 5 per cent.—may be levied as duty upon the Bananal gold-dust; and they trust that a sense of justice and liberal policy will induce the Government of Brazil, and the Chambers, to grant this reduction of the duty to the association, which, while suffering continuous heavy losses itself, paid large sums, as duty, to the public treasury, and contributed greatly, by its presence and expenditure, to the prosperity of Minas Geraes. The directors cannot conclude their report without expressing the deep sense they entertain of the confidence manifested towards them by the shareholders, not only at all former times, but more especially during the last two years, when it was so much needed. Satisfied in their own minds of the expediency, they might say of the necessity, of carrying on the operations of the association in Brazil, they reluctantly determined upon the acquirement of a new mining property, and they spared neither expense or pains to investigate the merits of those offered to them. Bananal, after the most careful examination, was considered to be a most desirable property for the association to possess. After much unavoidable delay, a lease was secured; and the directors do not hesitate to repeat the opinion they ventured

to express in their report on the 16th Nov., 1847—"That Bananal presents a fair prospect of containing a gold mining field, perhaps not inferior to Gongo Soco, which formerly yielded such large returns."

The CHAIRMAN said, he should be most happy to answer any questions, or give any explanations; with respect to the deficit on the half-year of about 8000*l.*, it was certainly a large sum, but a larger sum than that had been laid out in opening the mine at Bananal, and, therefore, it must not be considered a loss.—A PROPRIETOR inquired, whether there had not been a sale of some forfeited shares in the market, as he did not see the amount carried to the credit of the account?—Mr. GIBSON (deputy-chairman) explained, that the sum was carried to what was termed a suspense account; and that when they ceased making calls, that account would be merged into the general one; there had been 222 shares forfeited, and sold at 5*l.* per share; there were now only 116 shares in arrear, which, as the report stated, would be forfeited, if not paid up by the 30th inst.

Mr. WHEELER suggested, that the forfeited shares should not be sold, but written off in reduction of the entire number, and thus give a larger dividend to the shareholders who had paid; he complained that it was unjust, while he and others paid their calls as soon as due, others should stand over for months, watching whether the undertaking turned out good or bad, and acting accordingly.—Mr. GIBSON said, on that point their deed of settlement was imperative; it compelled them to keep up 10,000 shares, and they could not reduce the number.

Sir I. L. GOLDSMID, Bart., said, the directors wished to be strictly just with respect to the payment of calls, but they had so many appeals to their mercy from parties who were willing, but could not, pay exactly at the time, that they had endeavoured to steer a middle course. The conversation then dropped: the report and accounts were adopted, ordered to be entered on the minutes, and printed and circulated among the shareholders; and a vote of thanks having been passed to the chairman and directors, the meeting broke up.

ALTEN MINING ASSOCIATION.

The annual general meeting of shareholders in this association was held at the offices, Winchester House, Old Broad-street, yesterday, the 17th inst.

JOHN LABOUCHERE, Esq., in the chair.

Mr. COLE (the secretary) having read the notice convening the meeting, and the minutes of the last one, which were confirmed, Mr. WOODFALL (a director) read the following report, and statement of accounts:—

REPORT.

At this annual meeting the directors regret they have not the pleasant task they anticipated this time last year. The causes which have so generally affected the prices of every article used in the arts and manufactures, have been most severely felt in the copper trade—the prosperity of which is so dependent on the demand from the great consuming countries of France and Germany. Had the prices the directors were realising last year been sustained, the expectations then entertained would have been fulfilled; as it is, the directors trust the shareholders will be satisfied at learning, that, though a dividend cannot be afforded, the financial position of the association is such, that the operations can be carried on with comparative ease; and that a turn in commercial affairs, as well as further improvements in the mines, will enable them, at a future time, to make amends for any disappointment which may at present be felt.

Mining.—The produce of the mines, during the past year, exceeded that of the preceding, but not sufficiently to counterbalance the fall in the price of copper. The present prospects lead the directors to be sanguine in anticipations of the future. By the latter mining reports, the Old Mine, Ward's, Ryper's, Mancurs, and Carl Johan's, had improved; there had been a temporary falling off at Raipas, which seemed likely to be made up by a very recent discovery of great promise. Further discoveries of new lodes have been made, the most promising of which have been secured by the forms required by the laws of Norway; but, until favourable circumstances arise, by which more capital may be placed at the disposal of the directors, much benefit cannot be expected to be reaped from them. Some reduction has been made in the rate of wages, which the manager saw was called for by the low prices for copper ruling here; this has been acceded to by the men, in a spirit which proves the discipline and order that reigns among them; and it is highly creditable to the good sense of the workmen, that it has been effected without opposition. The tribute system, alluded to in the directors' last report, as recently introduced, has been further extended, and works admirably. The following is an extract from the manager's annual report on the subject:—

"I may, perhaps, be excused for, again alluding to the system of tribute, now generally introduced at all your mines where it can be conveniently carried out. The saving thereby effected in the ore dressing department, clearing the mines, consumption of materials, &c., has enabled us to resume, and profitably work, many of the old lodes, which, some 8 or 10 years ago, were abandoned on account of the returns not being sufficient to cover the cost. The benefit derived from the introduction of this system is reciprocally advantageous to the workmen, as well as to the association; inasmuch, the former are thereby enabled to obtain higher earnings, proportionate to the amount of saving effected in the consumption of materials, whilst the gain to the latter consists in the reduced cost of excavating and returning the produce of the lodes, together with an improved per centage of the returns of ore, and greater care and precision in the mechanical manipulation, by which more eligible mixtures are obtained for accelerating the smelting operations. The greater part of our workmen are now remunerated for their labour in proportion to the value of the returns which they make to the smelting-house, thereby making them participators in the benefits, and giving them an interest in the work which they have to perform. A scale of prices is fixed, dependant on the facilities afforded them for obtaining the produce; for these prices the men break, dress, and return the ore, and clear the workings, the only expense to the works consisting in the transport of the produce from the mines to the smelting-house, the general superintendence, and the cost of timber work for supporting the roofs and sides of the excavations. We are much indebted to the enterprising spirit latterly evinced by our workmen; and it is not less gratifying to allude to the confidence which they place in the straightforward and open manner employed by us in sampling and assaying their ores, from the result of which the amount of their remuneration is afterwards determined."

The smelting during the past year has proceeded satisfactorily, though the expense attending the reduction of the ores was somewhat increased, owing partly to the high rate of freight paid for the coals. An alteration has this summer been made by Mr. Thomas in the form and size of the furnaces, and the result of the operations has exceeded our expectations. This branch of the works may be considered in a very perfect condition.

The trading department continues to be conducted by Mr. Wilson with zeal and foresight, and yields a very fair result for the capital employed in it. During the past summer the directors have dispatched 19 vessels laden with coals, materials, goods, and stores, the whole of which have been purchased on very satisfactory terms; 4567 tons of coals have been delivered at a cost of 9s. 8d. per ton, including freight, and the quality of the shipments generally have been highly approved—these supplies will be sufficient for the maintainance of the establishment until next summer.

About 80 tons of copper have been prepared for shipment this autumn; but the manager had been disappointed in his endeavours to obtain a vessel to bring it to this country. The directors were obliged, the season being late, to charter a small vessel, at a high freight, which they had some difficulty in procuring, to bring about 65 tons; she is daily expected in the Thames. The remainder of the copper, therefore, ready for this opportunity will reach this country with the spring shipment. The directors expect, during next year, the supply of copper will be full as much, if not more, than they have received during the present. The directors have one important point to congratulate the shareholders upon. It is generally known that the association obtained from the Norwegian Government an exemption from dues on the produce, and from other immunities, for a period of ten years from the first smelting of the ores; this expired in 1847. The directors, by their manager, Mr. Thomas, petitioned the king, and through the recommendation of a liberal Government, seconded by the governor of the province, an exemption has been obtained for a further period of 10 years from the 1st Jan. 1847, from duties on materials employed in mining and smelting purposes. The tithe, or royalty, on the produce has been taken off all over the country, and the directors cannot doubt, should it again be imposed, but that a favourable decision will be come to in the case of the works.

From the audited statement of accounts, now before the meeting, it appears that the loss arising from the operations of the year ending 31st March last, is £97 0 7
And other contingencies appertaining to the previous year, amounting to.... 448 10 10

Will make the amount at debit of profit and loss £545 11 5

The directors continue to feel the most unbounded confidence in their manager, Mr. Thomas—his reports they again refer to, as affording the most ample details as to the state and prospects of the property, and they trust to meet the shareholders under happier auspices next year.

Dr.—Dividend, 5000 shares at 5s.	£1250	0	0
Disbursements at Alten, 12 months (less profit on stores, 1109*l.* 8s. 2d.)	9325	14	8
Interest on loans and bills ...	91	8	5
Analysis ...	5	5	0
Directors and auditor ...	310	10	0
London expenses ...	210	11	0
Deficiency in estimated weight of copper, per *Catherine Rosser*	89	2	9
Difference in estimate, 9680*l.*, of copper in last account and produce	116	5	10
Total ...	£11,398	17	8
Cr.—By balance ...	£1006	17	9
Estimated produce of 121 tons of copper ...	9846	8	6
Balance ...	* 545	11	5
Total ...	£11,398	17	8

Mr. LEE, in moving the adoption of the report and accounts, congratulated the directors and the shareholders on the excellent manner in which the accounts were kept; he was interested in a good many companies, and he did not know one where the expenditure was so explained in detail; the various items were placed in such order, as to be understood at a glance, and he considered much credit was due to Mr. Stephen H. Thomas, their agent in Norway, for the explicit manner in which he laid the position of the affairs of the association in Norway before the shareholders in London.

The report and accounts were then unanimously adopted.

The CHAIRMAN said, that some time since, a person named Smith went out to Norway in their service, and after being with them two years, was drowned by the upsetting of a boat he was in. His widow, who got into much distress, applied to the directors; but thinking, from the shortness of the man's service, it was hardly a case to bring before the shareholders, they had assisted her from their own private funds. She was again in difficulties, and had applied to have her case laid before the meeting. He, therefore, under all the circumstances of the case, proposed that a sum of 25*l.* be awarded to Mrs. Smith, with the understanding that she has no further claim upon the association.

After some little conversation, this proposal was unanimously agreed to.

The CHAIRMAN then observed, that the directors much regretted that it was not in their power to have laid a more satisfactory report before them; but, considering the badness of the times, and the depression in the price of copper, he thought they must be content with the one they had heard; had the price of copper remained as in the former year, they should have been able to declare a dividend of similar amount to that last paid. He still had every confidence in the value of the mines, and believed that if trade improved, which there was no doubt it would, they would be found a valuable investment.

A vote of thanks was then recorded to the chairman and directors, and the meeting separated.

* The real deficiency in the year is but 97*l.* 0s. 7d., as explained in the report; the remainder of the balance arises from having paid dividends, 1250*l.*, when the balance in hand was only 1006*l.* 17s. 9d., and the above deficiencies in the estimates of 89*l.* 2s. 9d., and 116*l.* 5s. 10d.

CAMERON'S STEAM-COAL AND SWANSEA AND LOUGHOR RAILWAY COMPANY.

A special general meeting of the shareholders was held on Wednesday, the 15th inst., for the purpose of receiving the report of the committee appointed 28th July last. N. P. CAMERON, Esq., in the chair.

Before proceeding to report the proceedings at the meeting, it is with regret we refer to a course pursued by the directors under the advice of counsel, which created a strong feeling on the majority of the shareholders—that of excluding from the meeting those parties who had not paid their calls—it being held, under the 26th section of the Joint-Stock Companies' Registration Act, that no shareholder could take part in the proceedings, without he should have paid the call, or calls, made on the shares held by him. Whatever may be the legal construction put upon the clause, it was very clear that the directors contemplated that the shareholders who were in arrear would not accord with the opinion given by the legal gentlemen; and, accordingly, two policemen were posted at the door, and no one allowed to pass without it being ascertained that the shares held by the party had been duly paid upon. Some 30 or 40 proprietors—among whom we recognised Mr. Strelley, one of the auditors of the company, and Mr. Smallbones, who has heretofore acted as broker to the company. Several members of the committee and large holders were thus excluded; and it was only by force that they gained admission to the room where the meeting was held. It was some time before anything like order was observed, when the CHAIRMAN, in addressing the meeting, and calling upon the secretary to read the notice convening the same, begged to observe, that the company having been duly registered under the Joint-Stock Companies' Registration Act, the directors were advised that, to render the meeting legal, no parties could be present, or take any part in the proceedings, unless they had paid the several calls made on the shares held by them. He would request Mr. Lloyd, the counsel of the company, who was present, to read the clause of the Act referred to, and to express to the meeting the opinions he entertained as to the construction to be put thereon.

Mr. LLOYD, having read the clause, expressed himself as perfectly satisfied that no person had a right to be present, or take part in the proceedings, without they had, in accordance with the provisions of the Act, qualified themselves by paying all calls made.

An angry discussion, or wordy warfare, ensued, in the course of which the CHAIRMAN observed, that he could not in his official capacity, as chairman of the meeting, recognise any parties being present who had not paid upon their shares: he appealed to them whether it would not be prudent on their part, and consonant with the interests of the company, that they should withdraw.

Mr. SMALLBONES observed, that the shareholders had an undoubted right to be present, in accordance with the deed of settlement; but he would not claim any right to vote at the meeting.

Mr. LLOYD, in reply, stated that the general Act, under which the company was formed, overruled the deed of settlement. It was not a matter of choice with the directors, nor was it indeed their desire that any parties should be excluded; but there was a line laid down, from which they could not depart, and therefore, strictly in accordance with the clause referred to; they, the directors, or rather the chairman of the meeting, was bound to exclude the parties who had not paid their calls, so as to render it strictly a legal meeting.

There being no disposition evinced on the part of any of the shareholders present to retire, the CHAIRMAN stated that, in addressing the meeting and referring to the learned counsel, he had only performed a duty imposed on him. That there was no objection on his part, or that of his co-directors, to exclude parties; but they were acting under legal advice, as it was quite apparent the parties to whom he had addressed himself had no intention of withdrawing, he considered that it would be well to proceed with the business of the day, it being understood that those parties who were present, but who had not paid the call should be considered only as attending by courtesy, and that they should take no part in the proceedings. On this understanding the business of the meeting was entered upon.

The CHAIRMAN called upon the secretary to state whether the committee appointed in July last had made any report, so that the same might be submitted to the meeting, when, the reply being given in the negative, he (the chairman) proceeded to call the attention of the meeting to the fact, that nearly four months had elapsed since the committee had been appointed, that no report had been made, and, from the peculiar circumstances in which the company were placed, the directors had felt it their duty to call the shareholders together, when he hoped, in common with his co-directors, that the report would be ready. He knew no reason to which the delay, or the absence of such report, could be ascribed; and it was to arrive at some conclusion that the present meeting was held. They would be informed that acceptances were coming due, money was required to meet engagements; but they could not expect calls would be paid under the circumstances; or, whatever might be their expectations, clear it was that no parties seemed disposed to pay their call, while the report of the committee was in abeyance. Reports and opinions were entertained that there was a something wrong, that there were certain matters kept back, and that there existed strong and cogent reasons for the reports being withheld; this was most unjust to the company—it was equally so to the board of directors; they wanted no concealment, If that there were any charges which could be put forward against them individually or collectively, he courted inquiry; but while the report was in embryo, and that without any explanation, he did complain, and, as he considered, very fairly, that an injustice was done to the board of directors. He should at once move that the committee be dissolved, it being the intention of the directors to call a second special general meeting within 14 days. He could have no objection that the committee, at the meeting to be so held, should make their charges, or complaints; but what he wanted was, that the property of the shareholders should be protected; and while he held the office in which they had done him the honour to place him, he would neither swerve to the right or to the left, but would perform his duty faithfully to the body of shareholders, feeling well assured that, in the end, they would thank him for pursuing a course which might appear to them at the moment opposed to their interests, but which alone it was his object to consult.

The motion for the dissolution of the committee having been seconded, Mr. WRIGHT moved as an amendment, that the meeting be adjourned until the 10th Jan.—it being impossible, from the nature of the accounts, and other matters coming before the committee, that they would be prepared on an earlier day to furnish their report.

Mr. HOWDEN (the secretary) having been called upon by the chairman to state whether every facility had not been afforded to the committee, so that there should be no ground for complaint, that gentleman stated that he had been in conversation with the chairman of the committee, and had proposed that a deputation from the board of directors should wait upon them. He begged to state, that there had been, at all times, every readiness and disposition on his part, and that of the directors, to render every assistance in their power, but of which the committee had not thought proper to avail themselves. That the committee, moreover, had attended at the office, and had had placed before them all the accounts, vouchers, and documents connected with the company, while there had ever been expressed the readiness of the directors and himself to co-operate, or furnish any explanations which might be required. He might be allowed to observe, that the delay which had arisen, had been highly prejudicial to the interests of the company.

Mr. BURLS, as chairman of the committee, wished it to be clearly understood, that he, with the other members of the committee, were equally anxious with the directors to bring matters to a satisfactory close; but there were several points intimately connected with the company, which they were not in a position to report upon. They had been called upon to investigate the affairs of the company generally, and which had led them into deeper inquiries than they had at first contemplated.

Mr. ELDERTON, as solicitor to the company, would suggest that some middle course might be adopted, which would accord with the feelings of both parties. He wished to impress on the shareholders present the importance of meeting their engagements, and providing funds, which were essentially necessary; while by the delay proposed, the interests of the shareholders at large must be necessarily sacrificed. He would suggest that Mr. Fry, the solicitor acting with the committee, be requested to confer with parties then around him, as to the best course to be pursued under all the circumstances, so that some mutual understanding might be arrived at.—A conference accordingly took place, which resulted in a communication being made to the meeting by Mr. Elderton, and which was confirmed and supported by Mr. Fry, to the effect that it was desirable the motion from the chair, as also the amendment, should be withdrawn; that an original resolution be passed in the stead thereof, adjourning the meeting until Friday, the 15th December next, at one o'clock, it being understood in the interim, that the committee would make their report, and furnish a copy of the same at least three days antecedent to such meeting; a resolution to which effect was put, and carried unanimously.

It was observed, on the part of Mr. ELDERTON, that it was highly essential some measures should be taken, in the interim, to provide the necessary funds to meet engagements coming due; he trusted, therefore, that those shareholders who had not paid up the call due on their shares would do so at the earliest period, an understanding having now been arrived at which must be pleasing and satisfactory to all present.

Mr. BURLS, as having taken an active part, fully concurred in the propriety of the observations which had fallen from the solicitor of the company, and begged to express his readiness, and that of those who acted with him, to provide their proportion of the monies required; while he recommended those parties who were in arrear to do the same, being satisfied that the result of the adjourned meeting would be satisfactory. There was no doubt but they possessed a valuable property; the only question was how they were to render it most available. He considered some changes must take place; but that was a question for after-consideration. He agreed with Mr. Elderton—monies must be forthcoming—and he, for one, was ready to advance his quota.

A vote of thanks was proposed to the chairman, which having been duly acknowledged, the meeting adjourned.

It must be satisfactory to learn, notwithstanding the opposition manifested, shareholders possessing nearly three-fourths of the shares, who had paid the call, were present, or were represented, at the meeting.

CASCADE MINING COMPANY.

A special general meeting of adventurers was held, at the Queen's Arms Hotel, Cheapside, on Monday, the 13th instant.

D. DUTHOIT, Esq., in the chair.

The minutes of the preceding meeting were read: it appeared therefrom, that the shares undisposed of should be offered to the several shareholders who had paid the first call of 20s. per share, at and after the rate of 5s., with the view of completing the entire number of which the company was constituted.

The PURSER reported, that letters had been addressed him, subscribing for a portion of the shares; and Mr. Taunton, on the part of several friends, engaged to take an additional number, making altogether about 450, being three-fourths of the shares not allotted; when it was suggested, that the meeting should adjourn until Thursday, the 16th inst., for the purpose of ascertaining whether those parties who had not expressed their intention were disposed to take up the remaining 160 shares, or that the same might be otherwise apportioned.

A finance committee, consisting of Messrs. Lewis, Small, Stickland, Duthoit, and the Rev F. Tauton, was unanimously appointed, and Mr. T. H. Taunton undertook the office of honorary purser, it being understood that no expenses should be incurred beyond those essentially necessary for the working of the mine. The meeting then adjourned.

An adjourned meeting of adventurers was held at the Queen's Arms Hotel, Cheapside, on Thursday, the 16th inst.

D. DUTHOIT, Esq., in the chair.

The minutes of the preceding meeting were read. Upon the question being put by the chairman to confirm the same,

Mr. N. TRUSCOTT rose, for the purpose of expressing his dissatisfaction with the minutes then read. He did not object to the appointment of the finance committee, which, indeed, was most desirable, but he could not allow the resolution arrived at, for the appointment of Mr. Taunton as purser, to stand. There were several reasons why he objected to Mr. Taunton—that gentleman then owed a balance to the company; he should, therefore, without further remark, move that such resolution be rescinded.

The motion having been seconded, Mr. TAUNTON expressed his determination to resist any attempt of the kind, which he attributed to personal feeling. He was there as the representative of 700 shares, and should have the question determined by the votes of those present.

It having been moved by Mr. W. SNELL, acting as honorary purser, that the chairman be requested to take the office held by him, to whom he was ready to hand over the books and accounts, a warm and lengthened discussion ensued, in the course of which an objection was raised to the votes tendered on the part of Mr. Taunton, the proxies not having been duly stamped. In the end, however, the motion was withdrawn, and Mr. W. Snell was requested to continue his office as honorary purser.

At the meeting, held on the 13th inst., it appeared that of the shares which had not been taken up, 450, or thereabouts, had been subscribed for by the friends of Mr. Taunton; but it appearing that the residue of 160 shares still remained on hand, that gentleman stated he was not prepared, on the part of his friends, to make the required payment, until the whole of the shares were taken up, and those measures adopted, which he considered essential for the protection of the interests of the company. Hence, it would appear, that the objects of the meeting were rendered nugatory.

It is much to be regretted, that the time of parties is thus taken up with idle discussions; for it is quite clear, that instead of making any advance, the movement made was of a retrograde character.

GADAIR MINING COMPANY.

An adjourned meeting of adventurers was held at the Queen's Arms Hotel, on Thursday last, the 16th instant.

G. W. BLANCH, Esq., in the chair.

The minutes of the preceding meeting having been read, Mr. MOLYNEUX wished to know, whether the same had been duly signed by the chairman, when it appearing that such had not been the case, he protested against the irregularity of the proceedings. He would suggest, however, that as Mr. Mackillop (a gentleman whose name had been mentioned on a former occasion) was now present, that the meeting should hear from him an explanation, with reference to that gentleman's position.

Mr. MACKILLOP accordingly addressed the meeting at some length, reading from the *Mining Journal* of 28th ult., the report of the proceedings on the 26th ult., wherein it was represented, that he (Mr. Mackillop) had no claim to the shares (700) standing in his name. He wished this matter to be explained, and he had come to London expressly with such object; he would, with the permission of the meeting, explain his position. It was now some years since he first became connected with the Gadair Mine, and up to the early part of the year 1847, had worked it for a considerable period single-handed. He then determined on disposing of his interest, the terms being 800*l.* in money, and 800*l.* in shares, paid up, to a certain amount; but, in the end, he agreed to accept 900 shares, with 2*l.* per share being considered as paid thereon, being equal to 1800*l.*, as the consideration money, and he considered that he was equitably entitled to those shares, and in no way liable to any call, or contribution, until the sum of 6400*l.* had been expended on the mine, whereas it would appear that not one tithe of such amount had been laid out. He respectfully contended, that he should not be required to make any payment until the terms agreed upon with him were fulfilled by other parties.

A conversation arose as to the peculiar position in which that gentleman was placed, which appeared to the meeting as rather a question between him and the concoctors of the company, than with the body of the adventurers, it having been a private agreement—at the same time, the meeting was anxious to do him full justice, it being in the end determined that a special general meeting should be held on that day fortnight, to determine what course should be pursued with respect to his claims.

The honorary PURSER wished to draw the attention of those adventurers assembled to one or two points, which he considered as important to be brought under their notice—the one was, that out of the 6400 shares of which the company was composed, one-half, or 3200 shares were allocated as free shares, and exempt from the deposit, or first call, of 2*l.* per share, being equal to 6400*l.* as the purchase-money of the mine; that of the remaining 3200 shares only about 300 shares had been subscribed for by the public, and, in fact, not more than some 600*l.* or 700*l.* had been paid up. In this it was clear that parties who had so subscribed were injured, inasmuch that it was clearly understood that a party subscribing for five shares did so as taking five 64-1000th parts, or 1-13188th part and risk of the undertaking; whereas, there being only 300 shares subscribed for, he, in fact, had paid in the proportion of 1-60th. He was not surprised that the call had not been responded to; for it was, in fact, an act of injustice to receive monies from parties who had been so deceived. He would suggest that a list of the adventurers who were in default should be furnished to the creditors, so as to allow them to select one or other against whom they might proceed for the recovery of their claims. The motion, however, was not seconded, and consequently fell to the ground. He (the honorary purser) would then at once proceed to another subject, on which he would offer, at the moment, no comment; but seeing Mr. Taunton present, who did not hold a share in the company, he would ask him whether he had not put himself in correspondence with the lord of the mine, with the view of the lease being declared forfeited, as regards the present body of adventurers, so that a fresh grant might be made to other parties.

Mr. TAUNTON, in reply, stated that such was not exactly the fact; he admitted that he held no interest, and that he had written to Mr. Ellis, the agent of the lord, recommending the course adverted to, and he then held in his hand that gentleman's answer, which he proceeded to read.—The letter was accordingly read, which was very honourable to the writer, and formed a striking contrast with that written, which had elicited such reply, and, indeed, might be considered a gentlemanly rebuke.

Mr. MOSS, as solicitor to the company, could not but express his indignation at the conduct pursued by Mr. Taunton, in endeavouring, in so underhanded a manner, to obtain the forfeiture of the sett for his own private objects. He (Mr. Taunton) having been the servant of the company, and now, after eating the bread of his employers, endeavoured to do them an injury.

We regret to say this attack on the honour and intentions of Mr. Taunton raised his ire; hard words were bandied about, and, in the end, that gentleman publicly apologised to the honorary secretary for expressions made use of by him.

We cannot devote space to follow out the proceedings, which reflected but little credit on several parties present; but, we doubt not, one or two more *exposés* of the kind will do more good to legitimate mining than all the prospectuses and reports which so frequently issue from the press.—The meeting then adjourned.

GREAT ROUGH TOR CONSOLS MINING COMPANY.

The usual bi-monthly meeting was held at the office of the company, Threadneedle-street, on Friday, the 17th inst.

W. A. THOMAS, Esq., in the chair.

The minutes of the last meeting were read, and adopted. The liabilities to be provided for before the next meeting were estimated at about 1422*l.*, and a call of 2*l.* per share was made, payable on or before the 11th December.—The following report from Capt. J. Hitchins was read to the meeting:—

Nov. 15.—In handing you the following report of our proceedings, progress, and prospects, during the last two months, I have merely to confine myself to what has been done, &c., during that time, as, previous to that period, you have been fully informed of every circumstance connected with our operations. At Morris's, on the western part of the mine, our progress in driving south, through the capels of the lode, has been much slower than was anticipated, the ground being extremely hard; we are now in the lode altogether about 3½ fms., and have not yet the least appearance of the south wall: however, I am in great hopes of still discovering something encouraging in the lode near the north wall—the ground, or foot wall of the lode in that direction being a beautifully decomposed granite, will, in my opinion, warrant my entertaining such hope. We have commenced driving at this level (30) on the course, eastward of the south part of the lode; we are now about 4 ft. 6 in. from the cross-cut; the branch, or leader, on which we are driving is of a very promising character—is about 12 in. big, composed of the black oxide of copper, mundic, and other characteristics of leading to good results. It is not yet, however, sufficiently productive of copper ore to warrant expectations of returns. In sinking Morris's shaft, I am happy to say, that we are making good progress; it is now about 8½ fms. below the 30 fm. level, the ground through which it is sinking is of a very favourable nature indeed, and intersected by numerous grey branches, all of which have an inclination towards the main lode—consequently, are what are called in mining terms droppers, or feeders, to it; but, more probably, offsheets, or branches, from the

main stock, which, according to the general underlay of the whole, is yet some 15 fms. or 20 fms. below the present bottom of the shaft. Thomas's shaft is now about 2 fms. below the level of the first intended cross-cut (30 fms.); the sinking of it has been suspended, and preparations are now making, and are in a forward state, to replace the present 12 inch pitwork with that of 17 inches, the former being considered inadequate to the effectual drainage of the water, in case the increase on cutting the lode will be as great as is expected.

This work, I hope, will be finished by the end of next week, or early in the first part of the week after, when we shall immediately commence cross-cutting to the lode. The calculated distance of the lode from the shaft is 13 fathoms; and, considering our driving to be 4½ fathoms per month, in three months from the commencement we may expect to see the lode at this point. Our engine and machinery still continue to act in perfect good order.

WEST UNITED HILLS MINING COMPANY.

An adjourned meeting of adventurers was held at the Queen's Arms Hotel, on Friday, the 17th inst.—T. Camplin, Esq., in the chair.

The minutes of the preceding meeting were read.

The Purser, being present, laid before the meeting the books and papers of the company, with the several vouchers—whereupon, after a lengthened discussion, it was determined to appoint a committee to examine and report upon the accounts, the chairman, with three other adventurers, being appointed, and Mr. Henry English being requested to act thereon.

The report of the proceedings, which were of a lengthened nature, is necessarily deferred until next week, it being understood that the committee meet this day (Saturday), and report at an adjourned meeting to be held on Monday, the 20th inst., when the meeting adjourned.

BRITISH COPPER SMELTING ASSOCIATION.

A preliminary meeting of parties interested in the formation of this company was held at the temporary offices, 2, Moorgate-street, on Tuesday, the 14th inst.,

James Wyld, Esq., M.P., in the chair.

The Chairman, in opening the proceedings of the meeting, stated, that the object of the promoters of the company was not only to afford relief to the mining interest, but to render to the capitalist, investing capital in the undertaking, a return far beyond that which might be contemplated from other sources of investment; and that it would be apparent, from the accounts then before him, that 28 per cent. was obtained on the floating capital, the monopoly which existed, as regards the body of smelters, was notorious, and required from him but little remark. It was, then, the object of the company not only to derive such profits as would appear from the amount submitted, but, by taking an independent or medium course, enable the miner to sell his ore at an advanced price, and at the same time afford to the company a fair return for their capital. There were only eight companies carrying on active operations, and these possessed the power, from their extensive capital and connections, of entirely controling the market. For many years past they had fixed the price which they would pay the miner for his produce, and also the price at which the smelted copper should be sold to the public; and, although upon many occasions there had been considerable reductions to the public in the price of copper, there had been a much greater proportionate reduction to the miner; so much so, indeed, that when, during the last few months, there was a fall of 10*l.* on copper, the fall to the miner on the price paid to him was no less than 15*l.* If he rightly understood the gentlemen who were engaged in getting up the new association, their object was, first of all, to afford protection to the miner and the importer of ores, by enabling them to belong to a company in which they should be participators in the profits; and, next, to show the public that the trade was so lucrative a one, and would produce so large a per-centage on the capital employed, as to make it a very profitable and desirable investment. By the prospectus they would see that the quantity of fine copper produced for the last three years, 1846, 1847, and 1848, amounted altogether to 64,574 tons, to which was to be added the extra weight which the smelters obtained from two sources; for at present they receive 21 cwts. for every ton they purchased, and were entitled to 2*l.* 15s. per ton as returning charges, and to other advantages, such as dry weight, &c. Now, the two great objects of this company would be, to secure the purchase of ores at the fair weight of 20 cwts. to the ton, and to enable the copper raiser to be a member of the company, and a participator in that 2*l.* 15s., which he thought was an enormous charge upon the miner. Hitherto, if the miner did not choose to sell his ores to the company which might make a bidding for it, he found himself precluded from entering the market; and, although the companies appeared to act independently of one another, it would really seem that there must be some distinct understanding amongst them. The total amount of the money value of the fine copper actually produced to the smelters in the last three years was 6,230,084*l.*, and the disbursements for ores, for delivery in Wales, and for smelting expenses, 5,444,795*l.* This, however, he believed to be a maximum calculation of the expenses, and that it would be found, in working a company, the expenses were rather over-estimated, while the proceeds were under-rated. But, taking the statement as it stood, and deducting the disbursements from the value of the fine copper, the balance of profit on the three years would amount to 775,289*l.*, or an average annual profit to the present companies of 258,429*l.* Looking at the prices of metal during the last three years, he thought a fairer average could not have been taken. The new company proposed to smelt at least 500 tons of copper per week; and this would give it one-eighth of the trade. But he did not think that anything like a capital of 500,000*l.*, the sum mentioned in the prospectus, would be required to enable them to carry on their operations; on the contrary, it seemed to him that 150,000*l.* would be quite enough to smelt 500 tons a week, which, being one-eighth of the trade, would give them large returns. If these calculations were correct, apart from any benefit which might be conferred upon the miner, and apart also from any advantages to the importer, the project was a fair and legitimate one for investment by the private capitalist. Everybody must admit that the present was a most opportune and fitting moment to establish such a company, inasmuch as the importation of copper ores was almost entirely free, the duty being a merely nominal one of 1s. a ton; and they might expect immense arrivals from Australia, as well as an increase in the importations from Cuba, Peru, Chili, and other parts of the world. By the formation of another company, the copper miners of those countries and of Cornwall would participate in the benefit to arise out of this new state of things. Although there were smelting establishments formed in North America, and in Hamburgh, and some very small ones in France, yet no one who had examined the subject would say that there was any reason to fear competition on the part of those establishments. In the first place, we enjoyed a great advantage over every foreign smelter in the cheapness of our coal; and, in fact, they had been compelled to abandon the smelting of rough copper ore in France, and confine themselves to smelting the fine regulus ores. In Hamburgh the smelting-works were being abandoned, and even in America they had found it to be more profitable to purchase their ores in a smelted state in the British market. At the same time, there must always be a small amount of smelting carried on abroad, on account of the peculiar constitution of our Navigation Laws; but whatever might be the state of foreign smelting, it could never reach such an amount as to materially change the aspect of the trade in this country. If they should be successful in establishing the new company, he was certain that it would produce a good return to the capitalist, whilst all who were engaged in mining operations, either at home or abroad, would have great benefit conferred upon them.

The chairman, having thus placed before the meeting the main objects of the company, and referred to the statistics presented in the prospectus and laid upon the table, stated that he was quite ready to answer any questions which might be submitted; whereupon several parties present, representing the mining interest, as also capitalists, who were prepared to enter into the proposed scheme, expressed the readiness of those, whose interests they represented, to join in the undertaking. The fact of a monopoly existing was known to all, and, with the mining interest of the county of Cornwall in its present depressed state, there was every reason to assume that the mine adventurer would gladly aid the formation of a company like the present. We feel it is unnecessary to follow the several speakers, the necessity and importance of the company being acknowledged by "One and All." In the end, after the advantages attending the formation of a company had been fully pointed out by several parties present, the following resolutions were adopted:—That it is highly desirable to form a new copper smelting company, to carry out which object steps be immediately taken to constitute a provisional board of directors.—That the provisional directors (with power to add to their number) should hold office until two-thirds of the shares be subscribed for, when a meeting of the subscribers shall take place, to elect the future directors.—That the meeting do adjourn until Thursday, the 23d inst., to nominate the provisional board of directors, and to receive the names of those parties who are willing to act.

A vote of thanks having been given to the chairman, the meeting adjourned.

ON THE LIABILITY OF ADVENTURERS.

Sir,—I think the mining community at large must feel indebted to your correspondent, "J. J. J.," for the clear manner in which he raised the question as to the liability of adventurers; and I, for one, acknowledge my thanks for the lucid manner in which, according to my reading, you have placed the subject; and, since the publication of your paper, I have procured the Act to which you allude. It certainly does seem that there is a way of getting out of the mess, such as, I am sorry to say, I am in at the present; but having consulted my lawyer, and he having submitted a case to counsel, I find that this Act, which was to have corrected those which preceded it, leaves (as I suppose is ever the object of our legislators) a question open for legal quibbles to be raised in our courts of justice. I cannot understand the 5th clause, as put by you, which I understand to be, that if a party who is a creditor of the mine sues me, as an adventurer, for the whole amount of his debt, I can serve the purser of the company with notice thereof, and, unless arrangements be made for the liquidation of the same, or an indemnity given me, I can apply to the Lord Chancellor, or Master of the Rolls, as a "contributory." Such is the title employed in the Act, for a flat of bankruptcy, to be issued against the company as a body—it being provided that the whole of the adventurers are comprised therein, and no individual rendered liable beyond his proportionate holding. There is, as I observed, a difference of opinion, as to whether I can do so on the commencement of the action, or only when judgment is obtained. And then, again, whether the creditor can issue execution against my property, assuming he gets a verdict, despite my application for a flat in bankruptcy against the company. I am told that, proceedings being taken against me as one of the company, the creditor holds me personally liable; and that, in making the company bankrupt, it affords me a ready mode of obliging each adventurer to pay his proportion, but does not, in any way alter the position of the merchant. If this be the law of the case, I am afraid that we shall have to pass through many quagmires, ere we get justice done. I acknowledge it is hard on the merchant not to have a remedy such as the law gave him, but I want to learn, with the contrariety of opinions advanced, what should be my course? Your advice will oblige.—An Occasional Contributor: *Nov.* 14.

[We should be happy if it were in our power to enlighten our correspondent. He has paid his lawyer and counsel for their advice, and we would recommend him to act thereon, while in giving insertion to his letter, it will, doubtless, elicit some remarks from other correspondents. We believe there are one or two cases likely to come on in court, when the several points raised as to the construction, or meaning, of certain clauses in the Act will be defined. In the meantime, if our correspondent will furnish us with the case submitted to counsel, and the opinion thereon, we shall be glad to furnish an abstract, so as to enable our readers to form their own conclusions, as to the difference of opinion said to exist.]

OLD COAL PITS.

Sir,—In your valuable paper of the 4th inst., there is a statement of another man falling a victim to the shameful practice of leaving coal pits, which have been worked out, totally unprotected—so that there is not the slightest means of preventing human beings, or cattle, from falling into them. In the present instance, the pit was at Brockmoor Green, near Birmingham, and the unfortunate man J. Bates. At the formality of an inquest, the jury, of course, returned a verdict of "Accidental death;" but I consider, Sir, the proprietor of the pit much more guilty of manslaughter than the chemist, who, in making up a prescription, inadvertently poisons the patient; or the pugilist, who, without intending such a result, accidentally kills his opponent. In the case of the coalowner, it is an act of "wilful" negligence, merely to avoid the comparatively insignificant cost of, at least, erecting a wood fence round the opening, if he will not go to the expense of filling up the shafts; and if, on proof of ownership and recent working, a few verdicts of manslaughter were returned, and a proportionate punishment by imprisonment (not merely fines) followed, there would very soon cease to be a dangerous pit in all the coal districts, and we should, consequently, cease to hear of these untimely and awful casualties.

Stockton, Nov. 16. Humanitas.

PREVENTION OF COAL MINE EXPLOSIONS.

Sir,—The long catalogue and continuation of the awful sacrifice of human life, and the consequent wretchedness and misery of surviving relatives and friends, may be charged to the absurd expenses and obstructive effects of our Patent Laws, or the apathy of our scientific societies. In the years from 1829 to 1835, I mentioned to many of my connections, that by *certain electrical arrangements*, I could very *largely* economise and lessen the consumption of coal for many of its domestic, chemical, and metallurgical uses; and that by a *safe* and beautiful internal and external *light, I could "supersede all the present gas lights;"* and that the same expense, the same minute of time, and the same apparatus, would supply *light, heat,* and *steam;* and by a slight modification of the same apparatus, chemical affinity would be usefully overcome in the *separation of minerals, ores,** and metals, even at light elevations, and without the use of coal, wood, or other fuel.

My friends imagined, that if anything of the sort were possible, it would 'have been done before" by some one of the many hundred members of the numerous scientific societies, who had more money, time, and experience than I had; and they also observed, that even if the thing could be done, various patents must be taken out, the expenses of which, in fees, would be enormous; besides which, one would have to contend with the whole power and wealth of the coal mineowners, as well as with the great influence of the various gas companies, and, therefore, my proposition was far too expensive and too perilous. Under these discouraging circumstances, I have been waiting year after year, month by month, in expectation that a matter of such importance as the salvation of thousands of lives, and the prevention of the injury by "*fire-damp explosions,*" would have induced some member of the Royal Society, the Society of Arts, the Electrical Society, the Society of Civil Engineers, some philanthropic individual, such as Lord Ashley, or some member of the Legislature, to have either suggested a preventative of such a deplorable waste of life, or to have held out some honourable award as an inducement for the devotion of attention to the means of preventing the continuance of such disasters.

The application of this kind of electricity has now become easy and effective for both safety and light, and may be applied with comparative economy; though, in this branch of the application, a somewhat greater, or less, expenditure ought not to have very much influence, as *humanity,* and our social duties, demand the adoption of this part of the invention, free from the fetters of monopoly, or restrictive patent rights. The simple and well known mode of producing the electrical light (easily sustained in glass cylinders, or globes, perfectly safe and impervious to the effects of the fire-damp), and the present means of isolating and securing the conductors, either through gutta percha, or the recently patented tile, or other tubes, now renders the application of electric light (in single or double glass cylinders, either with or without water), an efficient protector against gaseous explosions, and also a good and complete light.†—George Abbott: *Nov.* 13.

The Joint-Stock Companies' Registration Act and the Stannaries Court.—As evidence of the "working" of the Stannaries Court in Cornwall, we refer to four cases which came on for hearing, nominally against the purser of the Wheal Curtis Mining Company—a company which, by way of distinction, arrogantly claimed to themselves the rights and privileges attendant on registration under the Joint-Stock Companies Act, the promoters considering the Cost-book System is not sufficiently intelligible, or protective, for the body of adventurers. The fate of the company is well known, but we find that the Cost-book System and the Stannaries Court, although despised by the adventurers, condescend to take notice of them, in the person of their purser, who, on the 9th inst., was decreed, in the Vice-Warden's Court, to pay the several sums of 43*l.* 8s., 62*l.* 19s. 4d., 45*l.* 3s., and a further sum of 20*l.* for labour—together 171*l.* 10s. 4d., which is ordered to be paid. The purser, in the latter case, was examined, and produced the cost-book, and gave testimony corroborative of the plaintiff's claim. The witness was cross-examined on the part of his employers, the adventurers, against whom the proceedings were virtually taken, but nothing material was elicited, and, in the end, a decree was obtained.

North Devon Wheal Rose.—We have inspected some specimens of silver-lead ore, this week, at the offices of Mr. E. O. Evans, Threadneedle-street, which are of an extraordinary character. One block of the ore, weighing 860 lbs., has just been broken up at the above offices, and proved to be solid throughout. We learn about 3 tons of the same quality have been raised lately from this mine, at a depth of only 6 ft. from the surface; and valuable discoveries have been made in clearing out the old levels. The ore from the mine, we are informed, produces, on an average, 64 ozs. of silver per ton; and, we learn, a company is being formed for the purpose of extending the operations; and, as it has been a remarkable district for centuries, for the silver it has produced, we are led to expect very favourable results from having the mine under good management, and working with spirit and economy.

Wheal Henry.—The workings continue equally favourable as when last reported; the end in the 110 fm. level east carries about 8 tons per fm., and the winze, between the 100 and 110, is equally rich—110 tons of ore were sampled this week, of more than average produce. The lode being worked on is the same as that of Poldice, from which so large returns have been made. Shares have lately changed hands at 40*l.*, and upwards. There is a cross-cut driving south, about 100 fms. deep, to intersect other important lodes.

The Tin Trade.—We understand that a new tin smelting company will be in the market in the course of a few weeks, which will increase the number of companies (including the Charlestown House) to five, instead of three, as heretofore. The works, we understand, will be at Bissoe, and are in a forward state of preparation.—*West Briton.*

It is reported that the Briton Ferry Iron-Works, near Neath, will shortly stop until March next.—*Cambrian.*

ACCIDENTS.

Wednesbury.—William Stone was killed by a fall of coal in Mr. Tildesley's Wall-face pit, Hill Top.

Bilston.—T. Pooley fell down a pit near the Willenhall-road, and was killed. The deceased was banksman, and having missed his hold, fell down the pit: he was so dreadfully mangled, that his brains were brought home in a handkerchief.

Dudley.—W. Pritchard, aged 13, was killed by a fall of coal at the New British Iron Company's Netherton Colliery.

Londonderry Pit, Pittington.—G. Pratt was crushed by the falling of a large stone from the roof.

Blackdale Mine.—A serious accident occurred at this mine, belonging to Messrs. R. and C. Bently, and W. and R. Turner, to a boy about 12 years of age, the son of Mr. Joseph Morton, stone-mason, of Stoney Middleton, who was employed in feeding the mill with which they grind ore. He was standing on a board which gave way, and let him down, so that he fell with his arm into the hopper, where the rollers caught his jacket-sleeve, drew in his arm, and stripped all the flesh off bare to the bone. He was conveyed home, and medical aid immediately procured. The arm is still in a bad state, and amputation may yet be necessary.—*Derbyshire Reporter.*

* This application of electricity will eventually prove of great benefit and influence, both to the Cornish miner and the smelter, by its power of rendering available the various contents of the mineral, in complete separation, with comparative small expense.

† This light will shortly supersede the use of candles in the Cornish and other metalliferous mines.

The last accounts from Mexico are far from being of a tranquil and satisfactory character. No sooner have the American troops retired, and the aspect becoming more promising, through the firm and more conciliatory conduct of the President, than the public is again threatened by the ultra-republican party; and Santa Anna is now carrying on a systematic plan once more to invade the territory, and, if possible, to be again proclaimed president of the republic. He is arming several vessels, with the intent of landing at Chagres, or Vera Cruz, under the expectation of being joined by many of his former followers and the disaffected. In the meantime, the President has issued a most energetic proclamation to the troops and the people, in case of any attempt being made by this military adventurer to disturb the tranquility of the republic, and strennously exhorting all these connected with mining pursuits strictly to forbear from taking any part in political affairs, and that their properties shall be sacredly protected by the Government. It is but justice to the President to state that nothing has been wanting on his part to give full security and confidence to the mining interest since the late invasion. It has yet to be seen what part the United States will take in this expected outbreak.

Death of Mr. Nathaniel Rider.

We regret to announce, that we have just received intelligence of the death, at New York, of Mr. Nathaniel Rider, the inventor of the iron railway bridge bearing his name (see advertisement in another column), which he had succeeded in getting into extensive use on several lines in the United States. Mr. Rider was a man of great integrity, and much esteemed for the amiability of his disposition, as well as for his mechanical genius.

BRANCH PASSENGER LOCOMOTIVES.

Several trips were made on Wednesday last on the West London Railway, with a little passenger-carriage engine, the *Fairfield,* which has been constructed for one of the branches of the Bristol and Exeter line. The engine, "tender," and carriage, which have been constructed by Mr. Adams, of Fairfield Works, Bow, are connected together upon one frame, and weigh, with coke and water, about 10 tons. The object sought is to economise the working expenses of branch lines, and to introduce light rails and light engines into various districts of the country, the passenger and goods traffic of which are not calculated to pay a dividend upon the ordinary outlay for laying down the present character of permanent way, and supplying the present locomotive and carriage stock.

The engine and carriage run upon six wheels. The engine has but two wheels—viz.: the driving-wheels, which are in front. She is fastened to the carriage by longitudinal side plates, which are screwed together, and also by bolts and screws through a transverse frame, so that when in working order the whole may be said to run upon one frame.

The engine has an upright boiler similar to the little 22 cwt. express engine belonging to Mr Samuel, the resident engineer of the Eastern Counties Railway. The boiler has 150 tubes of 1¼ inch diameter outside, and 4 feet long. The fire-box is 2 feet 6 inches, by 2 feet. The diameter of the driving wheels, which have about 3 tons upon them, is 4 feet 6 inches; the cylinder 8 inches, and the stroke 12 inches. The engine is to be worked at about 100 lbs. pressure, and the consumption of coke is calculated at 10 lbs. per mile. In front of the driving wheels is the tank, which holds 220 gallons of water. The coke is carried in an iron box attached to the carriage.

The carriage is a composite one, and will afford sitting room for 16 first-class and 32 second-class passengers; but by a slight alteration the same compartments might be made to accommodate 60 persons. The cylinders of the engine communicate with the axle through an intermediate crank shaft. This is connected with the axle by side rods. The trailing and centre wheels run loose on their axles; the axles also run loose in their journals. The trips were run under great disadvantages. Being a new engine, her boiler is necessarily dirty, and she runs stiff. It was not till three or four journeys had been made that the priming could be kept down sufficiently to get anything like an effective working pressure in the cylinders. But, with these disadvantages, the little engine and carriage maintained a speed of 24 miles an hour up 1 in 100, and 41 miles per hour down the same incline. About 30 persons were in the carriage and upon the engine during these trips. Another of these carriage engines is in the course of construction for the Eastern Counties lines. The boiler is to be the common horizontal one. In a few days the *Fairfield* will, no doubt, be in pretty good working order. We shall then make a few more trips upon her, and be able to offer an opinion upon her speed and power.—*Herald.*

Bristol and Exeter Railway.—The directors are proceeding with their arrangements to work this line on the termination of the leases in May next. The three chief officers have been appointed—viz.: the superintendent of the line, the superintendent of the locomotive department, and the chief accountant.

Chester and Holyhead Railway.—The final operation of lowering the second tube-bridge at Conway, for the return line to London on this railway, and the placing it on its permanent bed, was accomplished on Wednesday. The ponderous mass of 1300 tons was suspended on chains, 2 ft. above its permanent bed, for a period of 10 days, during which the engineers and pilots were engaged in adjusting the bed-plates and rollers and masonry for its support. The tube was likewise lengthened 12 ft., by the addition of 6 ft. of similar tube to each end of the mass so raised; this additional length alone weighing upwards of 60 tons. Under the direction of Mr. R. Stephenson, Capt. Claxton, and Mr. E. Clark, the whole bridge, with its permanent way for the passage of the trains, complete and ready for use, was then gradually lowered by means of the hydraulic presses which raised it, on to a bed of red and white lead, spread over the creosoted timber, which equalised the weight on the cast-iron bedplates and rollers, to allow for the constantly varying length of the tube from changes of atmosphere. The tube is now in use for the transit of the trains.

Lancaster and Preston Railway.—We are informed that the arrangements between this company and the Lancaster Canal Company are now completed, and the original dispute satisfactorily settled so as to suit both parties.

Liverpool and Bury Railway.—This line, from Liverpool to Wigan, about 15 miles in length, was inspected and approved by Capt. Wynne, the Government Inspector, on Saturday last. The works were commenced in January, 1846, and are now nearly completed. There are several bridges and viaducts, and some heavy cuttings and embankments on the line. It is expected that a great portion of the goods and passenger traffic from Yorkshire, and nearly the whole of the coal traffic from Bolton, Wigan, and that district, will be diverted from the Liverpool and Manchester Railway to this new line. Coal pits are being opened in the district through which it passes, from which it is expected there will be a large traffic. A great portion of the line is nearly level, and the steepest gradient is but 1 in 94. The rails are let into grooves cut in the sleepers, in order to prevent their getting out of guage; and, as a further security, the rails are fastened to the sleepers at each joint by fang-bolts. The line will be opened for public traffic on Monday next.

London and North-Western Railway—Deterioration of Permanent Way.—We understand that a committee has been appointed by the directors of the London and North-Western Railway Company, consisting of Mr. Dockray, the resident engineer; Mr. M'Connell, the locomotive superintendent; Mr. Madigan, the ballast-carrying contractor for the southern division of the line; and Mr. Crampton, C.E.; for the purpose of discussing by what means the comparative deterioration of the permanent way, caused by heavy engines of different classes, may be ascertained.—*Railway Record.*

South Devon Railway.—Mr. Brunel has inspected the works on the Torquay branch, and decided on opening it for public traffic early next month. The timbering and rails are nearly laid, and the station is in a very forward state.

Amalgamation of the Eastern Counties and Eastern Union.—After the proposed amalgamation of the London, North-Western, Great Western, and London and South-Western Railways, this company will form the next greatest combination in the railway interest, representing, as it will, a capital of nearly 14,000,000*l.* sterling, having under its control nearly 500 miles of railway, and, in consequence of its connection with the Midland, possessing a beneficial interest in nearly an equal number more. It will also possess, with a very slight exception, all the railways in Norfolk, Essex, Suffolk, Lincolnshire, Cambridgeshire, Huntingdonshire, and Herts.

The Patent Electric Light.—Mr. Pepper delivered a lecture on electricity at Crosby Hall, on Thursday last, which was very fully attended. In the course of the evening, the newly-patented electric light was exhibited by Messrs. Staite and Petrie. It as completely obscured the gas light, by which the hall is usually lit, as it did the wax lights at the late exhibition at the Hanover-square rooms. In the course of the lecture, Mr. Pepper took great pains in explaining the elementary influences in producing certain electrical phenomena, and traced from thence the progress of voltaic electricity to the present period, the various kinds of batteries that have been produced from time to time, and the latest improvements of all in eliciting the new patent electrical light, invented by Messrs. Staite and Petrie. The effect of this light, in illuminating that beautiful old hall, throwing the tracing and carvings of the mullions and ribbed arches, and painted glass in the Gothic windows, and exhibiting the various colours of the dresses, could alone be rivalled by the light of the sun, and the prismatic colours were beautifully shown. It was stated by Mr. Pepper, that the light then exhibited, by careful calculations, was estimated by the first philosophers of the day to be equal to the illuminating power of 800 candles. At the close of the evening the patentees, at the request of the gentlemen present, consented that the electric light should be exhibited at Mr. Pepper's next lecture there, which is fixed for Thursday next, the 23d inst.

Fossil Planulite.—In the great level or adit, now in course of construction to drain the water from the Eyam Edge Lead Mines, was very recently found a beautiful fossil planulite, a species of ammonite. It consists of three of four "worls," and is considered the most perfect fossil of the kind ound in Derbyshire. It is now in the cabinet of curiosities belonging to the secretary of the Eyam Library.—*Sheffield Times.*

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Silver coin to Rotterdam, 73,800 ounces; ditto to Hamburgh, 55,040; ditto to Havre, 3454; ditto to Belgium, 12,000—Silver bars to Rotterdam, 91,000; ditto to Hamburgh, 12,000; ditto to Havre, 154; ditto to Calais, 1600—Gold coin to Havre, 945.

HULL, Thursday.—The share market remains steady, without much variation in price, and seems to have found its level for the present, until again operated upon by external influences. Although the statements furnished by the leading companies are generally considered favourable, those parties who take a gloomy view of them, look at the effect of the aggregate amount of capital required, and which may not be deferred. The statements of the York lines are expected daily, and will create some interest.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 7 per Cent., 188
3 per Cent. Reduced Ann., 85½ ⅝
3 per Cent. Consols Ann., 86⅞
3¼ per Cent. Ann., 86½ 5⅛
Long Annuities, 8¼
India Stock, 10½ per Cent., 234
3 per Cent. Consols for Acct, 86⅝ ⅞
Exchequer Bills, 1000*l.* 2d. 39 36 pm.

Belgian, 4½ per Cent., 70½
Dutch, 2½ per Cent., 46 5½
Brazilian, 5 per Cent., —
Chilian, 6 per Cent., 83¼ 4
Mexican 5 per Cent., 21⅝ ¼
Russian, 5 per Cent., 99¼
Spanish, 5 per Cent, 11½
Ditto 3 per Cent., 23⅝ ¾

MINES.—The improvement in the mining share market, which we have noticed for the past three weeks, continues to progress, notwithstanding the depression of the standard for copper ore.

The advance on tin has given an impulse to these mines, and several new ones are in conrse of being developed with renewed energy; whilst the old, or deep, mines will be placed in a more gratifying position.

Inquiries continue to be made for Devon Great Consols at advanced prices, but we have only heard of *one* transaction.

Buyers are to be found for Bedford United, West Caradon, and Carn Brea. Trehane, Trelawny, and Bedford, have also been in request, and several transactions in each done.

Shares in the following mines have changed hands since our last—viz.: Devon Great Consols, East Wheal Rose, Treviskey and Barrier, Wheal Trehane, South Wheal Basset, Wheal Trelawny, Condurrow, East Tamar, Wheal Mary Ann, Tamar Consols, Bedford United, West Caradon, Comfort, Stray Park, Cwm Erfin, Trethellan, Trescoll, Wheal Vincent, &c.

Last week we stated, on the authority of the *Plymouth Journal*, that Heignston Down Mines had changed proprietors; we are requested to contradict the statement, there being no foundation for such an assertion.

A general meeting of Cameron's Steam Coal Company was held on Wednesday, to receive the report of the committee of inquiry appointed in July last. The chairman proposed the dissolution of the committee, as no report had hitherto been presented. Mr. Burls, on the part of the committee, explained that, in consequence of the position of the company's affairs requiring deeper investigation than was at first contemplated, more arduous duties had devolved upon them, but they would be shortly completed. After a consultation, it was agreed to adjourn the meeting to the 15th proximo. The greatest excitement and noise prevailed, which was not lessened by the presence of two policemen at the doors, who were placed there, no doubt, under an apprehension of some disturbance from the disappointed shareholders, it being the determination of the directors to exclude all who had not paid up their calls. They, however, obtained admission by force, and an amicable arrangement took place before the meeting was concluded.

The half-yearly meeting of the Imperial Brazilian Mining Association was held on Thursday last. The profit from Gongo for the last six months ending 30th June, was from 1200*l.* to 1500*l.* over the expenditure; but the expenditure of the entire establishment in Brazil, almost wholly at the new mine of Bananal, in preparatory work previous to mining operations, such as buildings, water-courses, adit, machinery, &c., amounted to 11,539*l.* 6s. 2d., against which, deducting the gross proceeds of the old mine at Gongo, 3392*l.* 13s. 5d., the loss on the six months was shown to be 8146*l.* 12s. 9d.—which, however, may be considered more as an investment of capital for prospective produce and advantage. The reserve fund of about 32,000*l.* stock, the directors propose to reduce to 25,000*l.*, and to apply the produce of the amount sold to the general purposes of the association, in order to facilitate the early payment of dividends; and which reduced reserve fund the directors expect to be again increased by the "tenth" of future profits from the new mine, agreeably to the deed of the company. The recent calls have been paid on all but 116 shares, which will be forfeited on the 30th inst., if not previously settled.

The annual meeting of shareholders in the Alten Mining Company was held at the offices yesterday; the accounts presented at which showed a deficiency on the year's workings of 97*l.* 0s. 7d. The report, however, stated, that this result was not owing to any deficiency in the produce of the mines, or quality of the ore, but from the ruinous decrease in the price of copper; while the cost of materials remained the same.

The bi-monthly meeting of Great Rough Tor Consols was held yesterday, when a call of 2*l.* per share was made. The agents' report will be found in another column.

In foreign shares there has been a considerable business effected, especially in St. John del Rey, and in Imperial Brazilian and United Mexican a fair proportion have also changed hands. Australian, Bolanos, Asturian, and North British Australasian, have also been done.

The Copiapo Mining Company have received their letters and report for the month of July. The advices are to the 30th of August.; and, although no important discoveries have been made since the last reports, the mines generally are looking encouraging; 76 tons had been raised during the month, and the *Jenny Jones* had arrived five days prior for a cargo of ore.

CORNISH STEAM-ENGINES.

The number of pumping-engines reported for the month of Oct. is 25—the quantity of coals consumed being 1618 tons, lifting, in the aggregate, 14,000,000 tons of water 10 fathoms high—the average duty of the whole is, therefore, 53,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal.—The following have exceeded the average:—

Mines.	Engines.	Length of stroke	Load in pounds.	Load per sq. inch. on pist.	Strokes per min.	Consump. of coal in bus.	Million lbs. lifted 1 foot by consump. of 1 bush. coal	Average quantity of water per min.
Great Work	Leeds's 60-in.	9·0	47,020	12·9	8·0	1779	59·9	190
East W. Crofty	Trevenson's 80	10·33	80,938	12·0	4·1	1668	63·1	231
United Mines	Cardoza's 90-in.	9·0	99,468	13·7	5·4	3000	57·2	
Ditto	Eldon's 30-inch	9·0	13,631	16·0	8·8	520	69·9	
Ditto	Loam's 85-inch	10·0	89,320	11·8	5·8	2893	54·3	1554
Ditto	Hocking's 85-in	10·0	99,039	14·6	6·5	3872	57·2	
Tywarnhayle	Gardiner's 80 in.	10·0	68,517	10·9	7·9	3264	54·0	523
East Wh. Rose	Penrose's 70 in.	10·0	58,930	13·7	3·8	1140	72·5	552
Ditto	Michell's 70-in.	10·0	63,005	14·7	3·4	1262	62·9	
Wh. Mary	63-in. dir. acting	8·66	25,998	8·3	6·1	1054	53·1	258

JOINT-STOCK BANKS.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
22,500	Australasia	£40	£3	£14½
20,000	British North American	50	6	38½
20,000	Colonial	25	5	4
—	Commercial of London	20	6	18¾
4,000	Ionian State	25	6	24¾ 25
60,000	London Joint-Stock	10	6	14½
30,000	London and Westminster	20	6	20½–¼
10,000	National Provincial of England	35	5	33
20,000	National of Ireland	22½	5	17¾
20,000	Provincial of Ireland	25	8	37
4,000	Ditto New	10	8	14½
—	South Australia	22½	—	23
20,000	Union of Australia	25	6	23
10,000	Ditto New	2½	6	2¼ 2½
60,000	Union of London	10	6	10½

MISCELLANEOUS COMPANIES.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
10,000	Assam Tea Company	£20	—	£ 3
1,080	Auction Mart	—	£ ¾	28
10,000	Australian Agricultural	30	1	22
10,000	Australian Trust	35	—	30
8,000	British Alkali	25	4	16¾
10,000	British American Land	35½	—	14
8,600	British Rock and Patent Salt	35	18	11
8,915	Canada	32½	6	27
—	City Bonds (Navigation)	—	3½	82
1,800	Corn Exchange	37½	1¼	26½
5,000	Droitwich Patent Salt	25	¾*	11
2,700	Equitable Reversionary	95	4½	92
—	General Reversionary Interest	100	5	100 105
6,000	General Steam Navigation	14	1¾*	54½
—	Hudson's Bay Stock	—	10	230 240
2,100	Hungerford Market	100	¾	45
1,500	London Commercial Sale Rooms	—	1¼	31 32
8,000	London Reversionary	22	—	24¾
300	Margate Pier	—	10	196
10,000	Mexican and South American	7	—	3¼ 4
20,000	New Brunswick	75	—	—
11,600	Peninsular and Oriental Steam	50	7	55½
6,600	Ditto	40	—	—
5,387	Reversionary Interest Society	100	4¾*	90
—	Royal Mail Steam	—	5¼	44½
8,000	South Australian	25	6	14¾
20,000	Upper Canada	100	5	93 94
20,000	Ditto	—	5	93 94
10,000	Van Diemen's Land	20	—	4

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	7	—
512	Albert Consols	1	2¼
1024	Alfred Consols	8⅞	5
1000	Antimony and Silver-Lead Mining & Smelting	5	5¼
1024	Ashburton United Mines	8¾	10
1634	Balleswidden	9	18
128	Balnoon Consols	25	25
10000	Banwen Iron Co.	6	6½
1000	Barristown	5½	1½
4000	Bedford	2¼	2¼
1244	Birch Tor Tin Mine	9¼	1¼
8000	Blaenavon	50	17½
100	Botallack	182	60
120	Brewer	5	7
10000	British Iron, New, regis.	10	13
—	Ditto ditto, scrip	10	10
128	Budnick Consols	52½	35
1000	Callington	19	15
1000	Camborne Consols	5	5
20000	Cameron's Steam Coal	6	1
256	Caradon Copper Mine	9½	2
256	Caradon Mines	22½	10
256	Caradon United	24	5
256	Caradon Wh. Hooper	21	8
1000	Carn Brea	15	95
3000	Carthew Consols	1½	5
2048	Cascade	1	—
112	Charlestown	220	60
512	Coatlithe Hill	¼	1
500	Comblawn	5¾	3
128	Comfort	45	37
256	Condurrow	20	35
2560	Cook's Kitchen	14	2
1000	Coombe Valley Quarry	3¾	4½
6500	Cornish Mining Co.	2	2⅝–¾
20000	Cornwall New Mining	1	1
1000	Copper Bottom	1½	6½
1024	Cosheen	4½	20
212	Craddock Moor	23½	5
128	Creeg Braws	120	100
500	Cubert Mine	12½	—
1000	Cwm Erfin	3½	3½
300	D. Prior & Buckfastleigh	—	—
7100	Derwent	8½	5
845	Devon & Courtenay Con.	7¾	¾
1024	Devon Great Consols	1	215
1000	Dhurode	2	5
186	Dolcoath	30	15
2560	Drake Walls	5	4
10000	Durham County Coal	45	9
3000	Dyfngwm	10	12½
512	East Alvenney	5½	12½
112	East Caradon	47	47
2048	East Crowndale	5½	2½
512	East Combe Silver-Lead	6½	6½
128	East Pool	15	25
9000	East Tamar Consols	¾	¾
—	East Wheal Albert	1	3
94	East Wheal Crofty	125	250
1024	East Wheal Fortune	2	3
128	East Wheal Rose	50	650
—	East of Scotland Iron Co.	5	1½
123	East Wheal Seton	14	10
256	Exmoor Wh. Eliza	9	9
512	Fowey Consols	40	45
1024	Freidd Llwydd Mines	1½	3½
6400	Gadair	2	2
4000	Gen. Mining Co. for Irel.	1⅛	1½
2048	Goldscope Mine	2	2
256	Gonamena	44½	15
128	Goonvrea	4	2
100	Great Consols	1000	250
1600	Great Michell Consols	1½	¼
256	Great Resugga Moor	11	6
512	Gt. Wh. Rough Tor Con.	18½	11
1200	Growa Slate Company	5	5
256	Gwinear Consols	7	1
6000	Heignston Down Con.	½	2½
256	Herodsfoot	18	20
10000	Hibernian	12½	1¾
239	Hobb's Hill	6	1½
1000	Holmbush	22	1½
827	Kirkcudbrightshire	8½	2
2048	Lamherooe Wh. Maria	13	2
128	Lelant Consols	90	60
160	Levant	—	100
1000	Lewis	16	7
1000	Llwyn Malees	7	7
3600	Llynvi Iron	50	50
256	Lostwithiel Consols	19	14
6000	Marke Valley	10	2
5000	Mendip Hills	3	1
5000	Merionethshire Slate Co.	1½	2
128	Metha	34	140
20000	Mining Co. of Ireland	7	4½
256	New East Crowndale	3¾	2½
128	North Fowey Consols	37	10
100	North Pool	45	500
140	North Roskear	5½	165
262	North Wh. Leisure	1½	2
15000	Northern Coal Co.	23	2
128	Par Consols	—	1009
8000	Pennant & Craigwen	2	2½
100	Penrhiw	30	65
1024	Penzance Consols	16s 3d.	2
512	Plymouth Wh. Yeoland	6½	15
200	Polsaith Consols	5½	4½
2500	Rhoswiddol & Bacheidon	10	10
10000	Rhymney Iron	50	13
10000	Ditto New	7	6½
1000	Rosewall Hill	1	5

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
256	Rosewarva Mines	—	12
2048	Runnaford Coombe Tin	¾	10
128	South Caradon	10	300
1100	South Dolcoath	4	5
256	Sth. Friendsh. Wh. Ann	20	4
256	South Molton	5	10
256	South Tolgus	10	55
256	South Trelawny	28½	5
—	South Wales Mining Co.	¾	1½
128	South Wheal Basset	110	125
256	South Wh. Betsey	2½	12½
124	South Wh. Frances	160	230
1000	South Wh. Maria	2½	1½
10000	Southern & Western, Irish	2	4
280	Spearne Moor	30	40
256	St. Austell Consols	9	—
94	St. Ives Consols	—	320
128	St. Michael Penkivel	5	10½
999	St. Minver Consols	1	6
1000	Stray Park	13	18
9600	Tamar Consols	3	5
1024	Tavy Consols	4	4
6000	Tincroft	7	4
1000	Tin Vale	2½	3½
58	Tokenbury	170	10
256	Tollpetherwin	3½	5
256	Tregordan	2	9
256	Trehane	2¾	25
5000	Treleigh Consols	6	2
2000	Trenance	3	—
96	Tresavean	10	150
120	Trethellan	5	19
120	Treviskey and Barrier	130	84
288	Trevean	1½	5
100	United Mines	300	350
256	Wellington Mines	25	10
256	West Caradon	20	90
512	West Fowey Consols	40	12
256	West Providence	9	15
200	West Seton	40	210
—	West of Scotland Iron Co.	240	90
120	West Trethellan	5	30
256	West United Hills	—	4½
512	West Wheal Frances	1⅝	2
256	West Wh. Friendship	9	8
3725	West Wheal Jewel	11	1¼
256	West Wheal Tolgus	21½	5
256	West Wheal Treasury	19	8
1024	Whiddon Mines	4¾	4¾
5200	Wicklow Copper	5	8¾
107	Wheal Adams	79	30
1000	Wheal Agar	—	8
256	Wheal Albert	10	1
300	Wheal Anderton	23	15
128	Wheal Ann	—	50¼
512	Wheal Anna Maria	6½	8
1024	Wheal Ash	4½	8
120	Wheal Bal	5½	20
256	Wheal Benny	14½	2
256	Wheal Biencowe	21	5
256	Wheal Bucketts	20	5
256	Wheal Calstock	5	10
268	Wheal Courtenay	12½	15
256	Wheal Fortescue	6½	3
388	Wheal Franco	27	18
128	Wheal Harriet	45	—
100	Wheal Henry	—	40–5
1024	Wheal Lawrence	2¾	6
112	Wheal Margaret	79	250
512	Wheal Mary Ann	5	14½
208	Wheal Mary Consols	60½	8
—	Wheal Penhale	—	12
210	Wheal Prospect	4	7
120	Wheal Reeth	41	150
128	Wheal Rose	60	5
99	Wheal Seton	214	700
180	Wheal Sisters	35¾	5
512	Wheal Sophia	3¾	5
128	Wheal Spearne	10	75
128	Wheal St. Ann	30	35
550	Wheal Trescoll	4	6
260	Wheal Trelawny	7¾	58
256	Wh. Tremaine (St. Ervan)	9½	2½
1024	Wheal Tremayne	9⅝	2½
92	Wheal Tryphena	140	265
1000	Wheal Vincent	1⅝	6
256	Wheal Vlow (Perranz.)	⅜	⅜
184	Wheal Vyvyan	—	60
260	Wheal Williams	28⅝	8
1024	William & Mary Worth	2	2½

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½	2
15000	Asturian Mining Co.	13	2
20000	Australian	2½	4½
10000	Anglo-Mexican Co.	100	½
12374	Ditto Subscription	25	1½
6000	Barossa Range	⅛	1½
3000	Bolanos	150	2½
2000	Ditto Scrip	15	3
12000	Brazilian Imperial	23	10½–11
10000	Cobre Copper Co.	40	13
10000	Copiapo Mining Co.	14	2½
10000	General Mining Ass'n.	20	10
5000	Kinzigthal Mining Ass.	2	3
20051	Mexican Company	59	—
2000	Mexican & South Amer.	8	½
5000	National Brazilian	30	3½–5½
104000	N. Brit. Australasian	1	¼
7000	Royal Santiago	10	4
11000	St. John del Rey	15	11½–12
43174	United Mexican ...Av.	28½	3¼–3½

*** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	Traffic Returns. 1848	1847
Belfast and Ballymena	37¾	—	—	—	£ 439	—
Birkenhead, Lancashire, & Chesh.	19	997,284	37	5 *p. c.**	669	683
Caledonian	141	3,993,732	18¾	—	4671	—
Chester and Holyhead	84	3,014,602	21	4	1339	—
Dublin and Drogheda	35½	774,875	28	—	730	880
Dublin and Kingstown	7¾	395,915	—	6	702	692
Dundee, Perth, & Aberdeen Junc.	47½	544,554	26½	8	914	776
East Anglian (Lynn to Ely)	67½	1,167,104	4½	—	739	—
East Lancashire	44	1,733,915	15½	5	1586	843
Eastern Counties and Norfolk	307	10,364,505	11¾	4	13895	12470
Eastern Union	50½	1,522,232	20	—	1361	1141
Edinburgh and Glasgow	57¾	2,556,889	38	6	3466	3757
Edinburgh and Northern	78	1,722,213	15¼	4*	1802	645
Glasgow, Paisley, and Ayr	102½	2,286,353	65	4	2448	2609
Glasgow, Paisley, & Greenock	22½	848,328	14¾	4	965	1086
Gt. Southern & Western, Ireland	131	2,844,897	22½	4*	3233	1937
Great Western	290¾	11,311,069	75	7	18169	17837
Kendal and Windermere	10½	174,600	23	—	163	101
Lancaster and Carlisle	70	1,476,102	47½	4	2111	1337
Lancashire and Yorkshire	172½	8,242,628	57–8	6	10254	9133
London and North Western	435	22,835,120	115	7	37451	35395
London and Blackwall	4	1,299,675	4¾	1–12	594	790
London, Brighton, & South Coast	162½	6,284,812	27¾	2½	8242	3389
London and South-Western	215	7,139,733	38	6	8833	7643
Londonderry and Enniskillen	14½	154,643	16	—	128	113
Manchester, Sheffield, & Lincolnsh.	58	4,651,093	43	5	2711	2153
Maryport and Carlisle	28	443,974	40	—	—	551
Midland Company	463¾	13,254,006	79	6	20822	21482
Midland Great Western (Irish)	50	725,332	10	4*	1235	1004
North British	99	3,163,450	14¾	5	2562	2232
Scottish Central	45½	1,245,496	25½	—	1027	—
Shrewsbury and Chester	23	780,272	11½	5	1285	521
South Devon	50½	1,789,351	12	—	1213	753
South-Eastern	165½	7,389,322	23	6¾	6052	8947
Taff Vale	38	820,056	125	6¼	2069	1739
Ulster	36	684,684	45¾	—	—	772
Whitehaven Junction	12	150,879	9¾	3	185	193
York, Newcastle, & Berwick	270	5,038,255	24½	8	13709	11418
York and North Midland	255	4,179,309	48	8	7094	8160
FOREIGN RAILWAYS.						
Amiens and Boulogne	76½	573,338	5¼	4	1609	—
Antwerp to Ghent (monthly)	31	—	—	—	—	—
Marseilles to Avignon	71½	—	8½	—	—	—
Dutch Rhenish	57¼	—	¼	—	777	909
Northern of France	211	2,000,000	5¾	4	—	—
Orleans to Bourges (Central)	107½	—	—	—	—	—
Orleans to Tours	72	600,000	32½	6	—	—
Paris and Orleans	82	2,011,720	25½	12½	—	—
Paris and Rouen	85	2,082,916	15½	11½	6250	6780
Rouen and Havre	59½	—	7½	—	2330	2680
Strasburgh and Basle (monthly)	88	—	6	1½	—	—
West Flanders (ditto)	—	—	¼	3	1120	1615

* Interest.—Total for last week, £194,798, being an increase of £24,710 over last year.

LATEST CURRENT PRICES OF METALS.

LONDON, NOVEMBER 17, 1848.

	£	s.	£	s.	d.
IRON—Bar *a*, Wales ..*ton*	4	17 6	5	5	0
" London	0	0—	6	15	0
Nail rods "	0	0—	7	10	0
Hoops	0	0—	9	0	0
Sheets, single	0	0—	9	10	0
Refined metal	0	0—	3	7	6
Bars, Staffordshire	0	0—	6	10	0
Pigs, ditto	3	0	3	15	0
Welsh cold-blast foundry pig	3	15—	4	5	0
Scotch pig *b*, Clyde	2	1—	2	3	6
Do. toughened, Wales	4	0—	4	5	0
Stirling's Pat., Glasg.	3	0—	3	5	0
Rails, average	0	0—	5	10	0
Chairs	0	0—	4	0	0
Russian, CCND *c*.	0	0—	17	0	0
" Archangel	0	0—	13	0	0
Swedish Steel, fagt. *d*	0	0—	15	0	0
" " kegs *e*	13	10—	14	0	0
COPPER—Tile *f*	0	0—	78	10	0
Tough cake	0	0—	79	10	0
Chili	0	0—	70	0	0

	£	s.	£	s.	d.
COPPER—Ordin. sheets, *lb.*	0	0—	0	0	9
Old	0	0—	0	0	7¾
YELLOW METAL SHEATHING	0	0—	0	0	7¼
TIN—Com. blocks *g*..*cwt.*	0	0—	3	19	0
" bars	0	0—	4	0	6
Refined	0	0—	4	6	0
Straits *h*	0	0—	4	4	0
Banca, for home con.	0	0—	4	6	0
ditto for export only	0	0—	3	16	0
TIN-PLATES—Ch., IC *i*, *box*	1	10—	1	11	0
" IX	0	0—	1	16	0
Coke, IC	1	7—	1	8	0
LEAD—Sheet *k* ..*ton*	0	0—	17	0	0
Pig, English	16	0—	16	5	0
" Spanish	14	0—	15	0	0
Red	0	0—	18	5	0
Dry White	0	0—	22	0	0
Shot (Patent)	0	0—	19	0	0
SPELTER—(Cake) *l* on spot	0	0—	15	0	0
For arrival	0	0—	15	0	0
ZINC—(Sheet) *m* export.	0	0—	20	0	0
QUICKSILVER *n* ..*lb.*	0	0—	0	3	6

a Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto. *e* In kegs ¼ and ⅛-inch. *f* Discount 3 per cent. *g* Ditto 2½ per cent. *h* Net cash in bond. *i* Discount 3 per cent. *k* Ditto 2½ per cent. *l* Net cash. *m* Discount 1½ per cent. *n* Discount 1½ per cent.

REMARKS.—The iron market has exhibited no improvement this week; on the contrary, a feeling of distrust appears to prevail. The fact of forced sales of Welsh iron considerably under the market price for cash, and which have continued for some time, has greatly aggravated the dulness usually experienced at this season of the year. Scotch pig-iron must be nominally quoted at 42s., nett cash; but our letters received to-day from Glasgow state, that holders, in order to effect sales, have made a slight concession in price, to the extent of about 6d. per ton. Here there is no disposition to buy, in consequence of the unsatisfactory state of the Welsh and Staffordshire markets. In other metals no alteration.

GLASGOW, Nov. 16.—There has been no activity in our pig-iron market this week; little enquiry on the part of buyers, and as little disposition on the part of holders to sell. The price of mixed Nos. may be quoted to-day at 42s. for cash.

THE IRON TRADE.—The increasing inclination to do business at lower rates which prevailed after the late quarterly meeting, has been temporarily checked by the more promising incidents of the last few days. The revival of our South American connection, the reduction of bank discounts, the favourable news from the continent, and above all, the dissipation of much of that apprehension which had overwhelmed the affairs of our great railway companies in causeless panic, all operate beneficially upon the feeling of the trade, and assist in re-establishing a tone of confidence to its every-day transactions. But the most material drawback, so far as Staffordshire is affected, appears to be the formidable rivalry of the Welsh and Scotch markets. The low wages of their workmen, and the almost nominal royalty paid in many cases for the minerals, combined with the lighter expense of obtaining them, enable the Welsh or Scotch maker to realise a profit upon his iron at prices which would ensure a speedy ruin in Staffordshire. And although the article produced must be acknowledged to be inferior in quality, yet it is now so much improved, that it can be substituted in a considerable proportion to those uses where Staffordshire was formerly the only material consumed. Hence the demand for the latter has become more limited, and confined to better purposes; consequently the market is more easily glutted, and the rates obtainable must, in a great measure, be dependent upon the prices at which Welsh and Scotch can be brought into the same locality. These at the present moment are excessively low, and as yet without any tendency to improvement. The immediate home market of this district has, however, experienced a slight impulse during the past week consequent upon the renewed activity of the merchants and manufacturers of hardware; and, although this is insufficient to disperse the gloom through which the prospects of the winter trade have hitherto been viewed, even in our own neighbourhood, yet, in addition to the considerations before mentioned, and with a prospect of a better export trade early in the spring, more firmness may be expected in maintaining present rates, and a fair employment will be provided for the workmen. The lesson impressed upon the abettors of insubordination by the recent events at Vienna, will exert a powerful influence in curbing the revolutionary spirit so generally exhibited among our continental neighbours, and will thus assist in expediting that return to social order and commercial occupations which must precede the resumption of our export trade with them. In pig-iron very little has been doing, as there is no inclination on the one part to give way, or on the other to purchase at the rates demanded. Coals continue in good request, and the supply raised is rather limited. Many of the ironstone mines remain yet unworked, and holders of stone are unwilling to part with it, still clinging to the expectation of better opportunities after Christmas.—*Birmingham Gaz.*

SILVER-LEAD ORE

Sold in London, on the 14th November.

Mine.	Tons.	Price per ton.	Amount.	Purchaser.
Tamar	77	£17 17 6	£1376 7 6	Tamar Smelting Co.

LEAD ORES

Sold at Liskeard, on the 15th November.

Mines.	Tons.	Amount.	Purchasers.
Wheal Mary Ann	33	£17 2 6	Penhale Lead Co.
ditto	33	17 2 6	R. Michell & Son.
Sold at Holywell.			
Talargoch	106	£9 15 6	Newton, Keates, & Co.
ditto	13	9 9 0	ditto
ditto	19	9 15 6	ditto
Milwr	7	10 1 0	ditto
ditto	3	9 18 6	J. P. Eyton.
Hendre	15	9 2 6	Newton, Keates, & Co.
ditto	15	9 2 6	Walker, Parker, & Co.
ditto	41	9 7 6	Newton, Keates, & Co.
Deep Level	100	9 2 6	ditto
Fronfownog	30	9 7 6	Walker, Parker, & Co.
ditto	10	10 15 0	Newton, Keates, & Co.
Peel	73	9 13 0	Walker, Parker, & Co.
ditto	17	8 18 0	ditto
Cairnsmore	20	8 15 0	Newton, Keates, & Co.
ditto	20	8 15 0	Walker, Parker, & Co.
Llangynog	10	8 16 0	ditto
Total tons	499.		
Sold at the Mine.			
East Wheal Rose	57	£12 1 0	Newton, Keates, & Co.
ditto	48	11 16 0	ditto
ditto	45	11 12 6	Tamar Company.
Total tons	150.		
Sold in London.			
Holmbush	30	£16 1 0	Michell and Sons.

COPPER ORES

Sampled Oct. 25, and Sold at Swansea, Nov. 16, 1848.

Mines.	Tons.	Prod.	Price.
Cuba	115	13½	£8 19 6
ditto	106	13¼	8 18 0
ditto	101	14	9 0 6
ditto	96	13½	8 8 0
ditto	42	24¾	15 11 0
Cobre	115	13½	8 8 0
ditto	113	13½	8 13 0
ditto	110	13½	8 12 0
ditto	60	23	15 8 6
ditto	44	22	14 5 6
Chili	53	44	29 1 6
ditto	51	44½	29 5 0
ditto	50	53	34 7 0
ditto	48	51½	33 5 0
ditto	59	21½	14 12 6
Chili	58	23½	£15 11 6
ditto	57	23½	16 5 0
Knockmahon	85	10	6 12 6
ditto	80	9½	6 8 6
ditto	64	8½	5 5 0
ditto	58	13½	9 10 0
Copiapo	86	27½	19 2 0
ditto	85	28	19 2 6
ditto	84	27½	19 5 6
Burra Burra	76	28½	19 15 0
ditto	67	32¼	22 16 6
Ballymurtagh	33	4½	2 11 6
ditto	29	7	4 8 6
Princess Royal	60	31¾	21 10 0

TOTAL PRODUCE.

Mines.	Tons.	Amount.
Cuba	460	£4346 11 0
Cobre	442	4443 1 0
Chili	376	9038 14 0
Knockmahon	287	1964 2 6
Copiapo	255	£4887 6 6
Burra Burra	143	3030 5 6
Ballymurtagh	62	213 6 0
Princess Royal	60	1290 0 0

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
English Copper Company	76	£1332 9 9
Freeman and Co.	239	2004 3 3
Grenfell and Sons	234	3399 6 3
Sims, Willyams, and Co.	209	4051 14 6
Vivian and Sons	364	6007 9 0
Williams, Foster, and Co.	621	7465 1 3
Mines Royal	80	571 4 0
Schneider and Co.	158	1349 4 0
B. Smith	104	3032 14 6
Total tons	2085	£29,213 6 6

Copper ores for sale December 7.—Cobre 63, ditto 55, ditto 45, ditto 79, ditto 70, ditto 104, ditto 101.—Berehaven (Kellogue) 121, ditto (ditto) 108, ditto 99, ditto 94.—Burra Burra 72, ditto 71, ditto 55, ditto 49, ditto 59, ditto 56.—Chili 55, ditto 43, ditto 42, ditto 27, ditto 50, ditto 49, ditto 41, ditto 40.—Knockmahon 104, ditto 79, ditto 45, ditto 30.—Copiapo 83, ditto 82, ditto 66.—Princess Royal 51, ditto 11.—Kapunda 62.—West Dolfrwynog 20, ditto 19, ditto 12.—Total quantity of ore to be sold, 2330 tons.

COPPER ORES.

NO SALE on Thursday last, November 16.

Copper ores for sale on Thursday next, at the Royal Hotel, Truro.—Mines and Parcels.—Devon Great Consols, Wheal Josiah, Wheal Maria, Wheal Fanny, and Wheal Anna Maria 1531—West Caradon 340—Fowey Consols 272—Wheal Friendship 232—Poldice 136—Bedford United Mines 102—Creeg Braws 90—Wheal Maiden 20—Wheal Jewel 17—Wheal Unity Wood 4.—Total, 2744 tons.

Copper ores for sale on Thursday week, at the Royal Hotel, Truro.—Mines and Parcels.—United Mines 958—Consols 902—Tresavean 396—Treviskey 367—Par Consols 314—Wheal Mary Consols 264—South Caradon 221—Treleigh Consols 202—Wheal Comfort 174—Trethellan 172—South Wheal Tolgus 173—Wheal Henry 110—Penan St. George 99—Wheal Ellen 96—Grambler 93—Ting Tang 34.—Total, 4371 tons.

NOTICES TO CORRESPONDENTS.

"Rufus" (Neath).—The Kingsett and Bedford Silver-Lead Mines were formerly known as the South Wheal Betsey. We are not aware of the reason for changing the name, or what prospects it presents as an investment for capital.

"Plain Facts," on the Copper and Smelting Trades (No. III.), will appear in our next.

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses; not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, NOVEMBER 18, 1848.

"What is the Cost-book question?"—Turn right or left, ever is this inquiry put, and of late by parties who, we should have supposed, from their intimate connection with mining operations, were well conversant with, at least, the practice, if not the minutiæ, which we believe to be only understood, or acted upon, in the Stannaries' Court. The Act of 10 and 11 Vic., cap. 45—referred to in our last—appears to have alarmed numerous correspondents, whose several inquiries are, in effect, the same. We will endeavour to place before them the principal features, which, however, have been so oft treated upon in our columns, that it would appear a work of supererogation, were it not that it enables us to define how far, according to our views, the Act referred to, for winding up companies, has a reference to the working of the system. We may, however, premise, that if the Cost-book System be observed, there is then no fear of the Act coming into force—inasmuch that the provision in the Act referred to for making a company, or body of adventurers, bankrupts, is only in such case where debts have been contracted, and there are no funds to liquidate the claims of the creditors; it is in this case only that any measures can be taken, for the second clause especially provides, that it shall in no way interfere with the jurisdiction of the Stannaries' Court. It has been stated over and over again, that every adventurer is personally liable for the entire debts of the mine; but of this liability he need never be apprehensive, if the Cost-book System be followed—that of accounts being periodically furnished, and funds provided for the current two months' cost. This is what should ever be the case, for who would ever think of putting on a mine without having funds in hand, by way of deposit; while, at the expiration of any period, when such funds may have been expended, it is only natural they should pursue the same course, and require a further deposit, or call, to provide for the contemplated expenditure. By observing this course, the Act can never be brought into play, and hence is perfectly harmless, so far as the adventurer is concerned.

As regards the transfer of shares in the Cost-book, it has ever been considered, that the party to whom the shares are so transferred possesses all the title and privileges of the former holder, and is *de facto*, in the same position as the party so transferring, and subject to the liabilities due by the mine; but it must be understood it by no means follows, that the party so transferring the shares is relieved from any claim which any creditor may have for goods supplied the mine, or work done, during the time he was the holder of the shares in question—as, otherwise, it must be apparent, an injustice would be done to the merchant, who, on the responsibility of A. B., supplies the mine, and whose debt cannot be cancelled or got rid of simply by the transfer to C. D.—who, for the purpose of our argument, we will assume to be a pauper.

The Cost-book should be at all times open to the adventurers—it should contain not only the monthly cost-sheet, but the minutes of the meetings of the adventurers—all transfers should be recorded or registered therein; and if such be the case, it is the fault of the adventurer himself if he be not in possession of every information touching the affairs of the mine. That the business should be so conducted, a purser is nominated, whose duty it is to keep the Cost-book—he being the representative and recognised officer of the body of adventurers, and it is to him that all applications should, in the first instance, be made. The Cost-book recognises no committee with whom a power is vested to make calls or forfeit shares, although it has been of late general to appoint a finance committee from time to time, more especially with those mines the adventurers in which are principally out-adventurers. Upon the non-payment of a call, the Stannaries' Court gives power to sell the share, and proceed for recovery of any balance remaining due; and any creditor can apply to the Court, and, on establishing his claim, obtain an order for the sale of the materials.

We have now observed upon the main features of the Cost-book System, at least so far as applies to the particular question as to the interference, or powers, vested in the Act. We may observe, in conclusion, that all calls and dividends should be declared at a meeting of the adventurers at large.

By the early spring of 1849, the great Australian colonies of England, and especially South Australia, will have received upon their hopeful shores such a reinforcement of the skilled labour of this country as cannot have fallen to their lot, in the same period, since the print of the first European foot was seen on their sands. The emigration of 1848 will, we presume, exceed, in character and numbers, the emigration of any preceding year, in this direction. It cannot now be necessary to say a single word in commendation of the particular district to which the chief current of emigration has this year been directed, because every day's experience and information declare the Australias to be the theatre in which British labour will find the greatest amount of present encouragement, and of final prosperity. They have there space and opportunity so to enlarge and build up the framework of society, as to prepare the way, and make expedient and necessary a larger stream of colonisation shortly. In parting with those who have already gone, we were influenced far more by the advantages they would confer on the lands to which they were destined, than by any benefits arising to us from their departure. Emigration can afford at best but a small and insensible relief to England; managed in the freest manner, and with all admissible encouragements, it could barely keep in check the annual increase of our population—the utmost it could, by any means, accomplish would not amount to more than the preservation, as to numbers, of the *statu quo*; its benefits are undeniably of a merely negative description to us; but to the lands to which they have sailed away, they are more valuable than gold, or jewels, or any other form of accumulated wealth. No state ever yet had it in its power to bestow on its outlying dependencies a richer gift than the gift of its industrious citizens. Wealth might intoxicate and overpower them, lettered proficiency might dim their desire for material comforts, and philosophy might convert them into a colony of casuists; but, in helping forward to the Australias a portion of our active and industrious masses, we are increasing, in both hemispheres, the sum of human happiness, and strengthening the foundations of human liberty

The extent to which voluntary emigration has this year been carried justifies, as we think, the policy of Government in declining to take a direct part in that hazardous effort. The active out-of-door public are best able to do their own work; and, as a rule, might be more encumbered than assisted by the direct interposition of Government. We wait to see the actual results of the year, and to learn what preparation has been made, and what reception given, by the resident colonists, to the newly arrived children of their own fatherland. By their help they will be the better able to build their towns, to plough and to sow their fields, to bring up the almost unassayed treasure of their mines, and to do those other works which a rapidly rising population, and an expanding commerce, will impose upon them. They are, we believe, as a boon of the Imperial Government, to have a political constitution, suited to their particular wants and circumstances, conferred upon them. This will be no mean gift; but a far greater blessing it will be if the rudimental features of the new state, perhaps of the new empire, are well and securely laid in morality and religion, of which, we are happy to think, the character of this year's emigration has multiplied the pledges and increased the probability.

We have to direct attention to an important meeting, held during the present week, recorded in our columns of to-day, the object of which is likely to have a considerable effect, as regards our mining interests, and its operations we shall watch more closely, if carried out. It is proposed to establish an independent smelting company, and if this can be effected, of which we entertain no doubt, if the parties only go the proper way to work, then the mine adventurer will have something like a fair return for his ore, and the working miner, in like manner, a fair return for his labour; but until the monopoly now existing be abrogated by some such course, we fear that there is but little hope for the one or the other. We believe the company to have been started upon fair and legitimate grounds—honesty of purpose would appear to be the prime mover; while a wide field is open to the capitalist, not only to secure to himself an ample return, but to the miner a fair price for his ores, and thus enable mines to be worked which must otherwise be abandoned, if that without some change foreign ores shall be imported, and so destroy the interests of the home miner.

We have gone through the figures submitted by the promoters of the company. We also possess much information, acquired through other sources, and have no hesitation in saying that, while the shareholders may derive a highly profitable return, they will confer on the miner a boon, without which we fear, unless he instils honesty of dealing into the present body of smelters, he must needs retire from his avocation. Most gladly shall we afford our aid to the new company, upon the understanding that, as they can serve the miner and themselves by acting independent, no coalition takes place. Whenever such should occur, which, however, we will not contemplate, we can only say then they will have our opposition, as they now possess our good wishes; and our earnest endeavours to uphold them, they may ever command.

We cannot, of course, presume to forecast what will be the judgment of the LORD CHANCELLOR in the appeal case—LORD *v.* the COPPER MINERS' COMPANY; but we may take leave to say that, in our humble opinion, the substantial justice of the suit would be arrived at by affirming the decision of the Court below—that is, by its dismissal for want of equity. The plaintiff clearly asks for too much: he has manifestly overdrawn his bill. The chief official and executive individuals of the company, shall have (says the plaintiff in his bill) neither office nor function; they shall neither borrow nor lend; neither buy nor sell; nor do any other of the acts by which, in their judgment, the success of the company may be promoted, or its ruin postponed—in fact, for all purposes of utility, the court of assistants might as well be so many men in buckram. This is the accumulation of extravagancies virtually set out in the bill; and, beyond even this, the company is called upon to give an account of its affairs long anterior to the date at which the plaintiff had an interest in them. His time to make that inquiry was before he took part in the estate; his accession to the company was a condonation of all its antecedent's acts. The loan obtained from the Bank of England, under circumstances of great pressure, and which promised at the time to tide the company over its difficulties, this last course purposes to apply a very liberal Pensylvanian sponge to; and also in some other instances to do such things as are neither equitable nor honourable in the person seeking them. We have little relish, we confess, for the success of a bill by which it is sought to accomplish such objects; and it does seem highly improbable that any Court in Westminster Hall will enable any single member of a large company—or, indeed, any number of members less than the majority—so to interrupt and overturn the corporate activity of the court of assistants, because such single member, or such minority, conceive they have grievances justifying their resource to such extremities.

Too often have we had to record the hopes deferred, the disappointments, and the losses of companies, and of individuals who have embarked their capital in foreign mining adventure and research for the precious metals; and gratifying, indeed, is it, after years of gloomy doubt, or unpropitious fluctuation, to have to notice any discovery which can reasonably impart a cheering ray of hope, and hold out a prospect of ultimate success. The IMPERIAL BRAZILIAN ASSOCIATION, the NATIONAL BRAZILIAN, and all the other gold and silver mining companies in London, working in the Brazils and Mexico, have by turns presented their bright and dark phases to public view. The National Brazilian, after 11 or 12 years of continuous suspense, is now realising good returns, and working with every prospect of ultimate permanent success. The ST. JOHN DEL REY is paying good dividends, and it is this week our pleasing duty to allude to a discovery made in the new mine of Bananal, lately purchased by the Imperial Brazilian directors, the first intimation of which appeared in our Journal of the 4th inst., which, according to all mining experience in that quarter of the globe, presents unmistakeable indications of great riches being near at hand. The report o the directors, presented at the half-yearly meeting, held on Thursday last, and which will be found at length in another column, possesses much interest. The discovery of a bunch, producing 8 or 10 lbs. of the precious metal, immediately on getting into virgin ground, after clearing out the old workings, is a circumstance holding out much reasonable hope. It was not merely the obtaining 8 or 10 lbs. of gold from the washing house which would have induced Mr. HENWOOD, the chief commissioner, to have sent a special messenger to Rio, had he missed the post, for the purpose of conveying the earliest intelligence to the shareholders; there must, we should expect, have been pretty certain indications, which carried conviction to his experienced mind, that he could safely fortell a rich result at no distant day, and a probable approximation to those splendid returns, which so brilliantly marked the early days of this association. We sincerely trust such may turn out to be the case, and that all the British capital employed in Brazil in gold mining, and which has lain for years unprofitable, may at length obtain such a return as shall, in some measure, compensate for the chagrin and suspense which has so long been endured.—We also refer to the report of the Alten Association yesterday, the prospects of which, although no dividend was declared, arehighly promising.

In a late Number we adverted to the fatal explosion at the Whinny Hill Pit, in the neighbourhood of Whitehaven, and expected, ere this, to have been in possession of additional information to that rendered at the time of the accident. The secrecy observed on all similar occasions (for it is only in cases where the accidents are of so appalling a character as to render an inquest at the moment indispensable, that any knowledge is acquired by the public), however, has hitherto precluded us from resuming our observations; while it would appear that Government have taken no measures to institute an inquiry into the cause, which would lead us to suppose that they do not consider the working collier and miner to have any claim on their sympathy. We will now place before our readers a brief narrative of the accident, as appears from the evidence given at the inquest. The number of victims was 30, leaving behind them to mourn their loss, as also in a state of destitution, no less than 69 individuals, dependant on their daily earnings, while, as we have before stated, 13 were unmarried. The colliery, at which the accident occurred, is leased by the Hermatite Mining Company, and situate in the lordship of Egremont, about three miles from Whitehaven; and, in noticing its locality, it is with regret we find, from the report before us, that a spirit of rivalry was manifested between the two coroners—not emulation to arrive at facts and relieve the distressed, but each eager for the spoil attendant on his office, or influenced by motives which can only reflect disgrace on those holding the important office of coroner; but we suppose the frequent occurrence of accidents of this nature in the district render these gentlemen callous to all feelings or care, beyond those of gain. The rivalry between the coroners of the manorial district and the county appears to be this—the former contends that the *scene* of the catastrophe being within his jurisdiction, the bodies of all persons found dead in the colliery, from the consequences of the explosion, ought to be subject to his disposal, in reference to an inquest; while the latter claims as his *perquisite* the right of holding inquests on the several bodies, which, having been recovered from the pit, had been removed to their former habitations. The consequence, we are told, is an unusual degree of activity having been manifested on the part of each functionary, from whence, however, it is to be hoped, some good will arise, as, by the contention between them, additional information may have been elicited; while it is quite clear that public attention will be more generally directed to the subject of our remarks. To return, however, to our narrative. It appears, that out of 31 employed, only one escaped. The explosion, we learn from the evidence adduced at one or other of the inquests, arose from some one or more of the men at work having removed the top of their DAVY lamps, with the view either of obtaining additional light, or, as was alleged, for lighting their pipes, to which latter statement we can by no means give credence. It may be well for colliery proprietors, or agents, to endeavour to throw the blame upon the unfortunate men who have fallen victims; but we must have more conclusive evidence than that presented at the inquests. It appears that, after the accident, safety lamps were found with the tops off, which *practical* men deposed could not have been occasioned by the force of the explosion, but must have been removed in the way and for the purpose alleged. We presume that the practical men thus examined had had no experience of the effects of an explosion beyond theory, and were perfectly *independent* of the colliery owners and his agents; while the state of the lamps and tops would have at once determined whether there were grounds to decide on the explosion having been caused by the act of the collier, or being attributable to some other cause.

The evidence of the only survivor, although examined on the several inquests, throws no light on the cause of the accident; he merely states that he was at work 300 yards from the pit, and had on previous occasions worked with the DAVY lamp exposed, by the top being taken off. In his opinion, the pit was fired within 20 or 30 yards from the shaft by an open light; but had no particular grounds for arriving at that conclusion. From a statement, made by another collier employed in the shaft, it appeared that the colliery was notorious as dangerous, although he admitted it had been better since the furnace had been put on. Had himself at times worked with the lamp top off, but not recently; the reason was, that a better light was thus obtained, and, consequently, they could earn more money. The head overman, who had been only three weeks in the employ at this colliery, although of 12 years' experience, expressed his belief that the explosion was caused by the tops of the lamps having been taken off by some of the colliers to light their pipes; but, beyond the opinion so advanced, he had no proof. Another witness, however, gave a very positive opinion as to the pit having been fired by one of the colliers, who was said to be much addicted to smoking. We now arrive at the evidence of JOHN ARMSTRONG, an overseer at the Wellington Pit, belonging to the Earl of LONSDALE, and who has been connected with collieries 25 years. This witness at once declares that it was impossible to say how the pit was fired; it would not, continues he, be fired by a DAVY lamp, *if the lamp were good*. It *might* be fired by a pipe; but he had never known in his experience, nor had he heard of a pipe, in the ordinary course of smoking, having caused a pit to be fired; however such was possible; there must be flame to cause an explosion, and, in his opinion, supposing the tobacco in a pipe to be red hot, that in itself would not set off the gas, unless there was strong foulness in the pit; if it were very strong, a pipe would in such case set it off without a flame. Is of opinion, that the pit was fired with a naked light in the main road, it being sometimes the case that the men walk along the main road, which is considered safe, with the tops off. Is of opinion that the colliery is quite workable with ordinary care. The coroner (Mr. LUMB, in this instance) alluded to the state of the law, with reference to the punishment to which any one was subjected who should smoke a pipe underground, and so cause ignition of the gas, whereby an explosion might take place and death ensue; and it further appeared, that colliers proved to be smoking might be summarily convicted, upon evidence being given before a magistrate. Closing his address with a recommendation to colliery proprietors, to make an example on the ground of humanity, as an effectual warning against the continuance of a very common and dangerous custom. The verdict of "Accidental death" was recorded.

We have entered at greater length than was our intent, in giving the evidence as to the cause to which the colliery proprietor, his agent, and all those dependent, ascribed the sad explosion; but we are by no means satisfied with the verdict of the jury, inasmuch that there appears to have been no evidence given, so far as we can learn, of the actual state of the lamps; while that of the Earl of LONSDALE'S overseer, we think, goes far to prove that the accident is rather ascribable to the state of the pit than to the carelessness of the men. Under any circumstances, however, one thing is clear—a further addition to the loss of life, without any prospect of remedial measures being taken to obviate them for the future, has resulted; and without the public come forward, aided by the press, to draw the attention of Government to this fearful sacrifice of life, and insist on precautionary measures being adopted, and proper persons appointed in the several localities, to examine and report upon the state of the pits, we cannot expect otherwise than a continuance of these fearful accidents will be the case; for we have neither hope nor confidence in the coalowner taking any steps which are in any way calculated to affect him in a pecuniary point of view.

We cannot, however, close our notice without a recommendation to the coroner on the next occasion—which may possibly arise ere this paper issues from the press—that it would only be humane, and would only be in the fulfilment of his duty, were he, in addressing a jury, to point out the importance of a careful supervision of the works, of the necessity of proper measures being taken, by securing the tops of the safety lamps, and the propriety of legislative enactment making the proprietor so far responsible for the lives of those who contribute to his wealth by their risk and labour, as to provide a support for the widows and families who may be rendered destitute. This would be worthy of the man; while the indirect threat of punishment of the collier, for breaking through rules, the observance of which is in no way enforced, is but calculated to lead to a continuance of the present system.

The most ingenious device played off upon the Customs is decidedly that just discovered. A chest of watches is imported, and an apparently undue low value is put upon them. The vigilant revenue officers examine the contents, find one or two gold time-keepers of goodly appearance, and conclude that the intention of the importer was to defraud her Majesty of a portion of her lawful dues. Accordingly, a seizure is made, and as the punishment of his attempt, the owner of the watches is compelled to accept his own valuation, with a per centage added, by way of demonstrating the liberal policy of the Customs, and the desire not to grasp after so large a profit. At the customary period a public sale of the articles takes place, and not until then is it discovered that the property may be worth about 10 per cent. of the original valuation, the watches having been beautifully got up, and electrotyped by a process which rendered detection, even by experienced parties, extremely difficult. Some one in the trade, however, blessed with a suspicious jealousy of foreign industry, and doubting whether all is gold that glitters, adopts the rough test of the knife, and thus the cheat becomes apparent. There may be one or two worth the price originally put upon them, but as to the remainder of the chest we doubt the Custom-house authorities will be willing to get quit thereof for a mere song. The operator is, no doubt, clear of all pursuit ere this, and we are now led to ask whether there has been any laxity, or rather want of judgment, on the part of the officials. In endeavouring to answer this query, reference must be made to the enormous frauds upon the Customs carried on for a series of years by firms considered to be of as much respectability as they were known to be of wealth. The collusion of some few officials, the laxity of others, and the reflections induced against innocent parties, have made the revenue officers very much on the alert, and if, in the present instance, they have been deceived, we must make fair allowance, both on account of the novelty of the swindle, and of the testimony borne to the extreme finish in the manufacture. Experience must be bought, and the knowledge that the electrotype process has been brought to such perfection may not be useless to the public at large.

OUR LOST MARKETS.—No. III.

In order to judge of the value of a colonial market, we must bear in mind the difference between a new and an old country. In the latter, men and capital abound beyond the requisite proportion to the land. In new countries land constitutes the capital, and abounds out of proportion to the supply of stock and of labouring hands. The monied capitalist, in the old country, is continually hunting up new powers in the land to occupy his accumulations. After ploughing awhile, he turns to covering the soil with railroads, furnishing the coast with harbours, digging canals, and multiplying houses. The colonies are perpetually inviting capitalists to invest with them, and labourers to resort to them. The natural result is, that colonial rents are low, while interest of money and wages of labour are high. But to the rates of wages and interest, a limit is fixed by the market prices of commodities raised in the colonies.

Looking at our colonies for the moment as merely markets for the consumption of the products of this country, it is obvious that we should desire them to be productive and, consequently, able to pay the highest possible rate of wages and of interest. But this can only be accomplished when their agriculture proceeds under the most favourable circumstances.

A survey of the condition of our numerous colonies leads, however, to the conclusion that no very clear views upon this point have hitherto prevailed in them. We find their agriculture hampered with burdens, which both make it impossible to pay high wages, and deter capital from migrating to them.

It is impossible to regard a sugar estate in Trinidad or the Mauritius, or a coffee garden in Ceylon, as placed in a different position from a factory in Lancashire or Yorkshire, excepting always that it is more difficult to get capital invested in a colony than at home. As regards the mode of conducting business, the produce of a colonial estate remains longer in first hands than that of the Manchester spinner or weaver. The sugar is grown, shipped, and held in London, constantly in the name of one and the same party. The process of production, therefore, often continues—that is to say, the producers' advance lasts until the article is sold at an English market. An impediment thrown in the way at any stage of this process would be like a difficulty intervening between the carding and the spinning, or between the spinning and the weaving, of wool or cotton. Suppose excisemen stood in all the passages of our mills, and at the mouths of all pits, to tax the half-raw articles on their way—the cotton twist to the looms, the ores to the stamps—could manufacturers or miners get on in this way? Yet this is precisely what is done when export duties are levied on colonial produce coming to market. We are told that colonial revenues cannot be got in any other manner. If that is the case, so much the worse for the colonies and for the mother country. We may rest assured, that no revenue worth having can be collected from export duties; and, consequently, may infer that a colony burthened with such will prove but an indifferent market. In three of our richest colonial possessions an export duty aggravates the heavy amount of direct taxation, to a degree that has recently forced itself upon the notice of the people and Parliament of the mother country. Capital has been largely embarked in Ceylon, Mauritius, and Trinidad; but in all three islands, each of which is capable of furnishing alone the greater part of the colonial produce now consumed in England, ruin has followed in the train of enterprise and praiseworthy endeavours. So sad are the consequences of not calculating on settled principles the influence which financial systems have upon trade!

It was proved, in the committee on West India distress, that London houses advanced the capital necessary to pay the wages of the labourers at the Mauritius. As a matter of necessity, the capital to pay the export duty was also advanced from London, and it is easy to judge of the state of dependence which such advances create, or aggravate. As high wages cannot be afforded by planters thus harrassed, no measure short of cajoling reluctant coolies can keep up the necessary labour supply, and such are not likely to prove good customers to our home manufacturers. Many West India Islands, besides Trinidad, also burthen their trade with export duties, which, under the peculiar state of West India industry, are ruinously oppressive. The export duty, and that on horses, mules, oxen, and other cattle, as well as that on carts, waggons, &c., which the ingenuity of colonial financiers has here and there devised, are more especially taxes upon capital. We may, therefore, rely upon the exertions of the capitalists interested (and who are not always colonists) to get them removed. The capitalists have been the first victims of the oversight, in not studying the bearing of such imports upon their ventures. We may look forward to more care and energy on their parts in future.

But the English manufacturer and miner are quite as deeply interested in the fate of another class in our colonies, and it is needless to add, that in this, as in all other cases, the true interests of all coincide with the cause of philanthropy. The labourers of our splendid islands ought to be the great consumers of our exported wares. We know that in the ordinary state of things, wages are high where the soil is abundant and rich. If not hampered with ill-chosen taxation, the remuneration of the colonial planter and his labourers ought to be good. Sugar yields 2 tons to the acre, where the husbandry is well managed, a production that can admit of good wages; but, in the present abnormal state of things, the capitalist, finding himself hampered, turns all his powers to depressing the labour market. Not only are labourers imported in an exceptional manner, but they are bound, on arrival, to submit to certain rates of wages. The resource of the labourer against depression of his hire—viz.: the power of resorting to growing his own food, is cut off by the laws enacted against squatting. The Crown is the residuary landlord of the islands; but, unlike other landlords, it is content not to let a large portion of the best lands, if a certain price be not paid. The utility of private property is, that it always comes into the market; if the owner does not get a high rent, he takes a low one. But no private owner thinks of saying, "if I do not get what I ask, nobody shall use the land." Yet this is what the Crown does in Jamaica and in Trinidad—indeed, in all colonies; only that the price fixed is high in some, and low in others. Where it is high, we maintain that it presses on the labour market, and, to the extent to which it helps to reduce wages, it injures our market for the export of manufactured goods. Land is now only given in Trinidad and Jamaica at 1*l.* per acre.

Let it be considered that there is a local land tax at Jamaica amounting to 10 per cent.—that in Trinidad the export duties we have mentioned press upon production—that in all the islands cattle of all kinds are taxed (in most, carts and waggons)—and that a variety of other dues fall upon a man the moment he puts a hoe or a spade into the ground; and it will cause no wonder that these splendid colonies are avoided by labourers, as they now threaten to be deserted by capitalists. Returns have been made of deserted estates to the extent of 168,032 acres of sugar, and 186,400 acres of coffee lands, abandoned since 1832. As it is not in our power, if it were desirable, to raise the price of sugar in the market of the world, we can only seriously call attention to the state of our colonial taxation, laying particular stress upon the fact, that it is more the *nature*, than the *amount*, of a tax, which makes it oppressive or otherwise.

We have not penned these remarks with any view to swell the cry that has lately been raised against the Colonial Office. In the West Indies, at least, matters have been very much left to the parties interested, who, in the last session, gave abundant proof of their ability to carry things their own way when they choose. We miss on all sides a disposition to reduce these financial calculations to principles; and find, especially in the colonists themselves, a desire to treat financial operations empirically, and to trust to chance for getting right, as if the industry of man was a lottery, and not a beautifully-schemed disposition of Providence, in which reason and intelligence can most benefit those who exert them. Our hope for better colonial markets rests not on visions of political change, but on the progress of insight into the workings and counter-workings of science and skill in turning the gifts of Providence to the best account, and allowing to the greatest number a full share of them. Still, with all the drawbacks noticed, our Crown colonies are positively our best markets—that is to say, where we find the greatest consumption of our manufactures per head of the population. How this happens may be explained in a few concluding observations in our next.

FRENCH RAILWAY LAW FOR THE PREVENTION OF ACCIDENTS.—The orders issued by the Minister of Public Works upon this important subject are, that the employment of four-wheeled locomotives for passenger trains be interdicted; that every carriage do rest on six wheels at least, in order that if one of the axles should break, the carriage should still rest on supporters, and continue its course. Locomotives to be placed at the head of the train, and never behind. At least one luggage carriage always to be placed at the head of each train of five carriages, and two carriages without passengers, when the carriages in the train shall exceed five. Carriages with passengers never to be locked.

HUTCHISON'S PROCESS FOR INDURATING SANDSTONE.

In the *Mining Journal*, of 4th March last, we inserted the specification of the patent taken out by Mr. William Hutchison, for indurating and rendering impervious to moisture, dry-rot, or insects, soft, porous, sand, and other descriptions of stone; as also chalk, plaster, paper, wood, and every description of porous material, and have, on several occasions since, called attention to the importance of the subject. We have, however, during the past week availed ourselves of the opportunity of visiting the works at Tonbridge Wells, and thus becoming better acquainted with the process, and its results. The stone in this locality is most admirably adapted for operating upon by this process; it consists of a very fine grained portion of the Hastings sands, a widely-spread formation, forming the upper feature of the Wealden formation. These sands extend east and west from Cranbrook to Billinghurst, about 50 miles; and north and south from near Tonbridge to Hastings, a distance of nearly 30 miles. The stratification in many parts enables it to be quarried in large blocks, from 7 ft. to 8 ft. long, and it is frequently interspersed with veins of ponderous oxide of iron. The entire of this district is highly picturesque, and its geological features extremely interesting; though by no means entitled to be called a *rocky* locality, the undulations of hill and dale, the bold and grotesquely formed masses of sandstone, which in numerous situations abruptly rise above the surface from 5 ft. or 6 ft., to from 30 ft. to 40 ft. in height, with the abundant and variously coloured foliage with which the land is covered, render the scenery of the most pleasing description, and which, most probably, in connection with its fruitfulness, has obtained for this portion of Kent the title of the "Garden of England." The Calverley Quarry, where Mr. Hutchison's process is in operation, is situated about a mile to the north-east of the town of Tonbridge Wells, and the stone from thence has long been employed for building purposes, in common with stone from other properties in the neighbourhood. The whole of them, however, are extremely porous, and hold water like a sponge; the consequence is, that the whole of the erections in the town become discoloured and vegetated, and when the stone begins to decompose and scale off, gives them a very unsightly appearance. When indurated, without having sensibly increased in weight, the slabs ring like a piece of bell-metal, and being thoroughly saturated with bituminous matter, are, of course, nearly indestructible by time, and no moisture is left in them to support the growth of moss, or other discolouring matters. Among the numerous purposes to which this indurated sandstone can be most profitably employed for building, domestic, decorative, and paving purposes, and specimens of which we were shown, we may enumerate street, yard, hall, and house paving of every description, plain or in mosaic; cornices, friezes, capitals, brackets, &c.; foundations, ashler, window-frames, balustrades, malting-floors, green-houses, cornstack stones, sinks, guttering, drain pipes, pig and other troughs, grindstones, whetstones, mangers, dairy-floors, and shelves, wine-cellars, and, in fact, for every purpose to which stone or marble is applied, and, indeed, to many others which its extreme economy and durability will bring it into use, for this material must come into very general employment. For sewers it is well adapted; we were shown a cylindrical tube 2 ft. 8 in. diameter, made in four sections, in lengths of 4 ft.; these can be taken to the excavation, laid in, and cemented together with much greater rapidity than the formation of a brick arch; and, in case of obstruction, a section of the top plate can be taken off with the greatest facility; they can be made up to a size of at least 6 ft. diameter. For mural purposes it is also well adapted; one description of indurating material employed being a jet black, it is highly suitable for monuments, head and foot stones, tablets, and for internal decorations, such as cheffonier or sideboard slabs, console tables, chimney-pieces, &c.; it can be made to take a polish equal to the finest marble, by a peculiar process lately introduced by the patentee, and some of the specimens being beautifully figured by veins and bunches of oxide of iron, they become very attractive. For numerous railway purposes it would prove highly useful, and some work of this material is about to be executed at the Tonbridge Wells station. The inhabitants and builders of Tonbridge Wells are beginning to appreciate the importance of the process, in converting their porous material, from the employment of which their houses are always damp, into an impervious and almost metallic substance. Already much work has been done internally, in paving basement stories, as well as back-yards and forecourts; and it is probable, in a short time, a project will be adopted for paving the whole town with the material, a specimen having been some time laid down, and which gives the most entire satisfaction, being totally unaffected by wear, wet, or a week's severe frost, which occurred at the beginning of this month. The process is well worthy the particular attention of the owners of estates on this or other sandstone districts, as it gives them a material on the spot, far superior to either York or Portland stone, at considerably less than half the cost. The works at present are but small; but, on the employment of larger capital, and extending operations, there is little doubt but that orders would flow in to an extent quite equal to the possibility of supply, and prove a most safe, highly profitable, and lasting investment for capital. A local company is about to be registered, to be confined to working in the counties of Kent and Sussex, but allowed to supply the finished material to any distance, and it is expected the shares will be rapidly taken up, even in the immediate locality. Carton roofing, being sheets of pasteboard saturated with the preparation, is also made by the patentee, and is an extremely light and lasting material, as covering for sheds, outhouses, and railway carriages, and other purposes, and the same substance is made into water-pipes, at an extremely low cost. Hop poles, outdoor wood implements, and numerous other articles, may be preserved by the patentee's mode of induration, and the uses are almost infinite, to which we believe it will eventually be applied. Porous bricks and tiles are advantageously saturated by this process, and rendered perfectly moisture-proof.

The best testimonials we have of the durability, both in colour and substance, of this material, are works executed in France, in 1843, by the original inventor, M. Charles Legoux. These are at the Cathedral, Bishop's Palace, and Hospital, at Bayeux; several specimens of street paving and public works at Caen, in Normandy, and other towns in the north of France. They have all stood the effects of the elements in the most satisfactory manner, and appear as perfect and free from abrasion, or any injury, as the first week they were executed. The land on lease, adjoining the quarry, abuts on the railway, from whence coals, &c., are obtained, and goods transmitted, with the greatest facility and economy, and is sufficient for the extension of the workshops and other buildings, to carry on a business of first-rate importance. There is also an inexhaustible supply of water—so absolutely necessary in the several operations.

ORNAMENTAL MANUFACTURES IN BRASS, ORMOLU, &C.—We have been favoured by Mr. William Potts (of Easy-row, Birmingham) with an inspection of a novel assortment of most elegantly designed articles in candelabra, chandeliers, gas brackets, inkstands, flower-stands, &c. Notwithstanding the vast number of novelties which are continually being introduced in these elegancies, Mr. Potts, in his designs, seems to have left the beaten track, and boldly struck out a path of his own. To a delicate and accurate imitation of nature in the proportions of his foliage, he has added stained and opaque glass, in a style peculiarly new; and one happy feature introduced, which we do not remember to have seen elsewhere, consists of various light elegant figures in Copeland's statuary porcelain, after his own original models, which contrasts most happily with the gilt and burnished work, or with bronze or black, the colours blending most harmoniously, and each individual article of manufacture appears a *chef d'ouvre* in itself. Two wall-glasses, in particular, with the frames surrounded with figures and foliage of the shamrock and thistle, and surmounted by the oak, command attention, while the whole collection is remarkable for elegance of design and perfect workmanship, and will well repay an inspection.

OPENING OF RAILWAYS.—The railway commissioners state that during the last two years a very large addition has been made to the extent of railway open for traffic. At the end of 1845, 2441 miles were available to the public; 595 miles were opened in 1846, and 780 miles in 1847—making the whole extent of railways completed at the end of 1847, 3816 miles; of which 3257 were in England, 440 in Scotland, and 219 in Ireland. Between November, 1846, and the end of 1847, the commissioners directed preliminary inspections, prior to public openings, in 100 instances. In 21 cases it was considered necessary by the commissioners, on considering the reports of the inspecting officers, to postpone the opening of either the whole or a part of many of the railways inspected, and in more than one instance, to point out to the company applying for the inspection, the impropriety of requiring the attendance of a public officer before the works were sufficiently advanced to justify their proposal to open them to the public. In 40 cases, when allowing the opening, the commissioners thought it necessary for the public safety to make suggestions respecting a temporary or permanent restriction of the speed on certain portions of the line, and as to the arrangement of signals.

The Metallurgical Treatment of Ores.

By JOHN MITCHELL, Esq., M.C.S., author of *A Manual of Practical Assaying, &c. &c.*

No. XXVIII.—[*Continued from November* 11.]

In the investigation of the nature of each of the varieties of iron, mentioned in the last paper, it will be necessary to determine the separate and combined action of heat, oxygen, water, atmospheric air, and certain other agents, so as to ascertain the manner in which each individual of the group behaves, in order that we may arrive at some conclusion as to the differences between each, and, if possible, point out the manner of existence of the alterative principles.

The behaviour of some kinds of Iron as regards heat, up to the point of redness.—The most interesting change occurring, up to the above temperature, is change of colour. This change is more apparent in proportion to the polish of the surface exposed—that is to say, the higher the polish, the more will the change in colour be developed: hence it will be evident, that grey iron is not so susceptible of this effect as white, and that white iron is less so than steel. White iron, however, can be coloured nearly as highly as steel. The colour varies with the temperature; it is straw yellow at 400°, or about the fusing point of tin; gold, or deep yellow, at 420°; and at the fusing point of bismuth, or 450°, it is crimson; at 540° it is violet, purple and deep blue, and at the melting point of lead, bright blue; this colour, on a further increment of heat, passes to sea green, and finally disappears at about 700°. If now the temperature be further raised, the same series of colours again occur, but they are less bright, and disappear more rapidly; and just before a red heat, deep blue appears for the third time. It may be observed, that all these colours have but little lustre, except the deep blue of the first series. Steel, grey iron, and malleable iron, however, require very different temperatures for the development of these colours—steel requiring less heat than malleable iron, and that less than grey iron; steel very often commencing the third term of the series, whilst malleable iron has arrived but at the second, and grey iron at the first. Few experiments have been made in this direction with white iron, but it appears probable that it colours more readily even than steel. It may be here observed, that the harder the iron is, the more readily does it take colour; and hence hard and soft parts may be detected in the same bar—the hard parts becoming even blue before the softer parts have acquired a yellowish red tinge. Just before a red heat, all these varieties of iron acquire a brownish tinge, and from that pass to a full red heat.

The behaviour of Iron from a red heat up to its point of fusion.—In proportion as the temperature is raised the red becomes brighter, and changes to yellow; that again brightens until it is shining white—this is termed a white heat. As in the case of the various changes of colours, just observed, so do the varieties of iron arrive at the different temperatures as above in different times; and it is a curious fact, that they follow just the same order—for instance, steel becomes more rapidly red, yellow, and white than malleable iron; and that again sooner than grey iron, but white iron becomes hot as rapidly as steel. The difference is greater in proportion to the hardness, as was also the colouration. If the heat be still augmented after whiteness, the iron will soften, and finally fuse.

On the Action of Oxygen on Iron.—In speaking of iron at high temperatures, no mention has yet been made of the action of oxygen; this agent, however, plays, or seems to play, such an important part in some of the changes already described, that, before entering into the action of any other substance, this must be discussed. Iron, at a low temperature and in dry air, undergoes no change; its affinity for oxygen is only manifested at a certain degree of heat. There is little doubt that the colours already mentioned are the effect of oxidation, although of what degree we are yet ignorant. These colours, as is well known, appearing like a light breath over the surface of the metal, have hitherto escaped all the operations of chemistry. They disappear at a red heat, and with them disappears all metallic lustre. The iron is then covered with that greyish envelope which always accompanies it. Experiment has proved that malleable iron, exposed for a long time to a red heat, but out of contact of air, undergoes no change. If, on the contrary, it is exposed to the air, its surface becomes covered with a layer of oxide, which, however, does not completely defend it from the further influence of the air, but acts only as a porous coating: thus exposed, iron loses its tenacity, and becomes brittle.

The Action of Water on Iron.—Water, perfectly pure and free from air, has no action on iron until the temperature arrives at nearly 212°, and then it is very small. It is, however, instantaneous when red-hot iron is sprinkled with water, or when steam is passed over red-hot iron in a porcelain tube. In all cases the iron is oxidised at the expense of the oxygen of the water, and the hydrogen is liberated as gas.

The Action of Moist Air on Iron.—Perfectly dry air, at ordinary temperatures, has no action on iron, that only commencing with the first temperature of coloration; it is very different, however, when charged with water. Daily experience proves that iron exposed to a moist atmosphere, soon becomes covered with a yellowish brown layer, termed rust. Rust appears sooner on white iron than on steel, or grey iron; malleable, and especially hot short iron, are attacked the most readily.

The Action of Carbon on Iron.—Malleable iron, as just stated, when fused *per se*, keeps all its properties; but if the fusion takes place in presence of charcoal, it becomes either steel or cast-iron, in which case it fuses at a much lower temperature. This fact, so well known in the cementation process of manufacturing steel, did not lead any of the more ancient metallurgists to a true theory of the nature of cast-iron and steel. Bergman was the first who called attention to this subject, and after him Rinmann; but they did little more, owing to the imperfect state of chemistry at the time, and it was not until the time of Berthollet, that much light was thrown on this subject. From early experimenters, it appears that soft steel was considered to contain the smallest amount of carbon, and grey iron the largest. This, too, seemed borne out by the appearance of each particular kind of metal, and appeared to furnish a very simple and satisfactory explanation of the properties of iron in its different states. Later experimenters, however, have found this quite erroneous, and it is scarcely to be wondered at, when we take into consideration the great strides analytical chemistry has taken since the time of the first experiments.

It was impossible, then, to determine amounts of carbon by any other than the rude methods of dissolving in acids, or by synthesis—such means being totally inadequate to the purpose. We have now, however, the accurate and refined method of organic analysis, so much improved by Liebig, that its performance, with but little instruction, is the readiest method of analysis known, when applied to the determination of the total amount of carbon in iron. It is true, that some little modification is required; but this does not at all change the apparatus employed, or the method of manipulation—it merely applies to a slight change in the substances used. We shall besides find that, by the amount of carbon, as determined by the older analysists, we could not explain why, with equal per centages of that substance, iron might be sometimes grey, soft, and granular, and sometmes white and brittle, or why one variety might be transformed into the other.

Many phenomena determined Berthollet and others to admit the presence of oxygen in white iron; this point will be questioned hereafter. It is, however, probable that a very slight difference in the per centage of carbon was not sufficient, in their minds, to account for the great difference between the two kinds of iron—hence the idea that oxygen might also be present. Analysis has never detected unaltered carbon, or graphite, in white iron; whilst grey iron gives a considerable amount: besides graphite, grey iron contains carbon in an altered, or combined, form; and it is in this state alone that it exists in white iron. Neither variety, however, contains the slightest trace of oxygen. Steel contains only altered carbon, and gives no graphite; it is the same with malleable iron. It appears that the highest proportion of carbon found in iron, manufactured on the large scale, is 5·25 per cent. This existed in lammelar white iron, and corresponds to two atoms of iron and one atom of carbon. Starting from this maximum point, white iron contains very variable amounts of carbon. With about 4·25 per cent., this class of iron preserves its texture; below this per centage the iron becomes granular, and of a greyish colour, which brightens in proportion to the diminution of carbon; and the metal passes, by an infinity of shades, into a steely iron—hard steel, soft steel, and a very ferruginous steel, or iron, possessing the properties of steel in a very low degree.

The absolute quantity of carbon contained in steel requires new experiments; the author, however, has not yet had leisure for this investigation. Karsten states, that in forged and in cast-steel he has found from 2·3 to 1·25 per cent., and in cemented steel 1·75 per cent.; malleable iron generally contains about ·5 per cent. of carbon; the total quantity of carbon in grey iron varies from 3·15 to 4·65 per cent., including graphite from 2·57 to 2·75 per cent.

It has already been stated, in other papers, that I consider white iron to be a mixture of a definite carburet of iron; and iron, and grey iron, to be a mixture of a definite carburet of iron with uncombined carbon and iron. This point, however, will be further discussed when the action of acids on the various kinds of iron comes under consideration. In next week's Journal, the action of phosphorus, sulphur, &c., on iron will be discussed.

Errata: Column 1, p. 527, line 33 from top, *read* silicate *for* silica; column 2, p. 527, line 15 from top, *read* C_{12} *for* C_{24}; column 2, p. 527, line 17 from top, *read* C_{12} *for* C_{24}.

STANNARIES OF CORNWALL.—The Accessionable Manors' Commission Bill, which received the Royal Assent on the 31st of August last, contains clauses with reference to the Stannaries' Courts of Cornwall, empowering claims for debts under 20*l.* to be tried by five jurors only, instead of 12 as heretofore. The Bill also enacts that one bailiff shall be appointed in each town in the county, for common-law processes; and one bailiff in equity for the whole jurisdiction of the Stannaries, for taking possession of mines, serving of attachments, &c. Mr. W. V. Morris, of Truro, has been appointed to the latter office, but the common-law bailiffs have not yet been appointed.—*West Briton.*

APPOLD'S CENTRIFUGAL PUMP FOR DRAINING MARSHES.

Fig. 1.

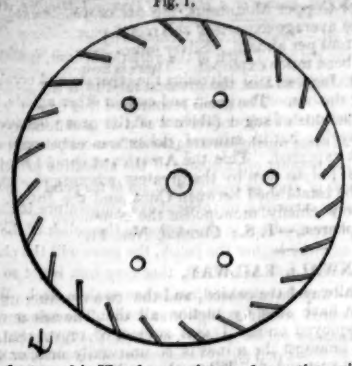

Fig. 2.

In last week's Number we inserted a notice, with descriptive diagrams, of Mr. Appold's centrifugal pump with six fans, which we had seen in operation, and which we witnessed, as stated, raise 1093 gallons, 6 ft. high, per minute. Mr. Appold has experimented on cylinders with various numbers and shapes of fans; and, as we before stated, has found the one already described with six fans of that peculiar shape, far superior to any other number The above diagram (*fig.* 1) is a lateral section of a centre plate, and 24 fans, the latter being only small rectangular vanes, 1⅛ in. in length across the cylinder, and ¼ in. deep; and *fig.* 2, a transverse section of the section plate, to show shape of fans. With the 24 fan cylinder, 809 revolutions per minute, raised the water 5 ft. high, 292 gallons per minute, and at 800 revolutions, 2 ft. high, 950 gallons per minute. With a 48 fan cylinder, 786 revolutions raised 505 gallons per minute, 6 ft. high, and at 762 revolutions, 1072 gallons were raised 3 feet high per minute.

These data show that 48 fans are superior to 24; while the cylinder with six fans is capable of performing double the work of that with 48 fans, with two-thirds the speed. On increasing the size of the cylinder, as the circumference would move faster in proportion to its enlarged size, the same amount of work would be performed—for instance, the periphery of a cylinder, 6 ft. diameter, revolving 100 times per minute, would travel with as great velocity as that of 1 ft. diameter, making 600 revolutions, and, consequently, perform the same work. It has been objected, that keeping up the working of these centrifugal pumps to such high velocities, requires an enormous amount of power—indeed, more so than would be required to raise the same quantity of water by the common pump; but to this it may be replied, that the common pump always works to great disadvantage at such shallow depths as 6 ft. or 8 ft., and the object of the inventor being the drainage of marsh land, where it is only necessary to raise the water a few feet, sufficient to obtain the necessary fall for carrying it off, it is probable a cylinder of somewhat larger size would be found to work with considerable economy.

English and American Machinery.—By the last arrivals from New York and Boston, it appears that the ironmasters are becoming alarmed at the large importations from this country during the present year. Although iron is very plentiful in different states, it is, generally speaking, of an inferior quality compared with British, in respect to ductility and tenacity, and, consequently, but ill-suited for shipbuilding and machinery. It is a singular fact, that the boilers of the United States steam-packets, the *Ocean*, *Washington*, and *Hermann*, from New York to Bremen, have each become *out of order* during their trips, and obliged to undergo a repair before putting to sea again, whilst those of the British North American Royal Mail packets from Liverpool, Halifax, Boston, and New York, have not yet experienced the slightest accident, either to boilers or machinery, which are of British manufacture. We do not make these remarks out of any prejudice, as we are aware that great improvements are being introduced in the manufacture of iron in the United States, but at present their metal, either wrought or cast, is not equal to that of England—for rails and chairs, it may do, but for shipbuilding purposes and machinery it is not suited. As we stated in a former Number, a company has been formed at New York for building six large Transatlantic steamers, the engines and boilers of which, we understand, are to be made of British metal. The French attempted a line of steam-packets last year between New York, Havre, and Cherbourg, which proved a failure, in consequence of the inferior quality of their machinery, which was made by French contractors.

Improved Razor.—The operation of shaving is at all times somewhat unpleasant, not to say dangerous, and many there are who, from these circumstances, adopt the still more unpleasant practice of delegating the manipulation to another, and making regular visits to, or being visited by, "the barber." A lady once complaining to Dr. Arbuthnot of the miseries and difficulties women had to endure, he replied, "she would indeed have reason to complain if she had to shave three times a week!" To obviate the casualties and uncertainty of operating with the razor, as used by the usual method, Messrs. C. Stewart and Co., of the Strand, have introduced and patented a razor, named the "Plantagenet Guard Razor," by which the very possibility of cutting the skin is avoided, while the perfect removal of the hair is secured. It consists of a razor of the usual form, on one side of which a German silver guard, in form of a comb, is secured, the teeth of which very slightly project beyond the cutting edge, which they do not, however, quite touch; by this arrangement, the person operating can shave upwards, downwards, or across the face and chin, as hard and as rapidly as he pleases, without the slightest danger. The razor has a stubb on its back, and a corresponding slot being cut in the top of the guard, it is slid on and off with the greatest facility. By this arrangement, the operation of shaving can be performed with perfect safety at sea, by the nervous, the invalid, or even the blind; and in hospitals, lunatic asylums, &c., where the utmost difficulty is found in shaving patients, particularly the head, it will be found invaluable. The guards can be obtained to fit either side of the blade, so as to suit a right or left-handed person. It is quite true, that guards to razors are not new inventions, but heretofore the guards have been made in solid pieces, and not with teeth, and, consequently, pushed both the hair and the skin together, thus being rendered inoperative, and quite as dangerous as an unprotected edge. We may add, that we have tried the Plantagenet razor, and found shaving to be performed with the greatest freedom and ease, and with perfect safety. The patentees have acted wisely in resolving to sell their razors at so moderate a price, as to place the invention within the reach of all classes.

Screw Friction Clutch.—To obtain a means of engaging and disengaging machinery while in motion, without interfering with other machinery which may be attached to the moving power, has long been a desideratum. The lever has hitherto been applied for throwing in and out the conical clutch, to which there are many objections, as there is always great pressure in keeping the cones together while at work, and the continued friction against the collars wears out the gearing and endangers the cogs. Mr. Jonathan Ashby, of Greenwich, has registered what he terms a "screw friction clutch," by which he gets rid of the great friction required by the lever, and does away with all friction against the collars. It consists of an internal and external friction clutch, the one fitting wedge-like into the other. A hollow shaft runs through the outer clutch and is affixed to the inner one; in this shaft is a rod, attached at one end to the inner clutch, and at the other has a worm run upon it, on which is a nut attached to a grooved wheel, over which is a band connected with another wheel, moved by a handle; as this wheel is turned one way or another it either threads or unthreads the screw, and draws in gear or liberates the inner clutch. It can be attached to any solid shaft if required.

Horological Candle-Lamps.—Messrs. Deane, lamp manufacturers, opposite the Monument, King William-street, have introduced a very pleasing and useful novelty, attached to Palmer's candle-lamps. It is a clock-face, placed immediately above the light, having one hand so arranged in connection with the spring which keeps the candle up to its position, that as the latter burns away, and the spring continues rising, the hand slowly revolves, and shows the time of night. A Palmer's candle burns slowly and very regularly; and the time-piece being arranged for any particular size candle-lamp, all the candles consumed in it will be found to vary in their time of burning so little as to render the clock sufficiently correct to tell the time of night, and be interesting to the sick, and those who watch with them.

Original Correspondence.

PEAT-CHARCOAL.

Sir,—To my last letter, inserted in your Journal, respecting Messrs. Davy and Wilkin's peat-charcoal works, you were kind enough to append a note, offering to lay before your readers any further information which I might deem interesting to them. Those works are now complete, and in very successful action; and I will trouble you with a short detail of their arrangement and capabilities. The portion of the Forest of Dartmoor, of which those gentlemen have a grant from the Duchy of Cornwall, amounting to 13 square miles, stands so very high above the adjacent country, as to make its bogs and peat tracts inaccessible to ordinary modes of conveyance. To obviate this difficulty, we have laid down a tramway, upwards of 3¼ miles in length, composed of beechen rails, boiled in coal-tar; for the *average* gradient from terminus to terminus being 1 in 15, and some of the actual gradients as high as 1 in 8½, no power of breakage could have held back the carriages on the slippery surface of iron rails. At present, we find one well-constructed break carriage quite sufficient to bring down trains of three carriages with perfect ease and safety. In the portion of the forest where we are at present cutting, the peat averages about 6 ft. in thickness, though we have reason to believe that further on it attains the great depth of from 20 to 30 ft. This peat we cut out in cubes of 8 to 10 in. diameter, and immediately carry it to a powerful press, where it is reduced about two-thirds in bulk, and nearly deprived of its water. It is then loaded in the trucks, and is conveyed to the works, where it is boiled in a mixture of coal-tar, pitch, peat naphtha, and other hydrocarbons. It is by the management of these two operations of pressing and boiling, that the different degrees of density required by manufacturers are obtained; and, as our quantity of press power is at present far below our wants, we are obliged to depend for much of our supply on the old system of cutting and atmospheric drying, which, if we had not substituted drying by pressure, would have left us dependent for our supply on weather and seasons, and prevented us from attaining that density in our charcoal which is so essential to its stowage, in moderate bulk, in the holds of steam-vessels. After saturation and drainage, the peat is fit for charging the retorts, of which at present we have six, composed of fire-clay, 9 ft. long, and 5 ft. in diameter, holding two tons of saturated peat each, and capable, when in full operation, of working 8 tons each in 24 hours. The gaseous products from these retorts pass much after the mode adopted in ordinary coal-gas works, along a hydraulic main, and through a long set of condensers, whence, after being deprived of all its condensable adjuncts, the purified gas is brought, by means of pipes, beneath the retorts, where it serves as a very powerful fuel. The condensed matter from the peat which we are at present using, contains an immense proportion of stearine or vegetable tallow, oil, and naphtha—indeed, so extremely greasy is it, that we are using it with good effect on the axles of our carriage wheels, without any purification. When the retorts are discharged, the charge requires to be drawn into a close iron chest on wheels, with a tightly fitting lid, which must be immersed in water, as the charcoal retains its heat for a very long time; and if quenched with water, as is the case with gas-coke, it imbibes so much of that fluid as very materially to deteriorate its quality. The quantity of charcoal hitherto sent out is trivial; but the extraordinary effects it has had upon smith's work in particular—arising, I presume, chiefly from the total absence of sulphur—has been such, that it has acquired the concurrent testimony of several intelligent smiths, without one single adverse opinion, to convince us that they were not exaggerating the merits of a new toy. The absence of clinker at the nozzle of the bellows, the perfect freedom from scale on the iron, so that an iron horse-shoe looks like one of steel, and that delicate instrument, the weaver's pick, when broken, is welded together with ease, the reduction of the loss in the weight of iron and steel, when welded, to much less than one-half that sustained when heated in a coal fire, are amongst the more prominent advantages of which I am daily receiving details.

I will hereafter, Sir, if you will allow me, when the trials have been more extended, and on a larger scale, trouble you with a statement of the advantages of peat-charcoal in the working of metals, and the evidence on which those statements are founded; but a regular perusal of the pages of the *Mining Journal* has impressed me with far too high an estimate of the value of its columns to allow me to trespass further upon their space at present.—Joseph W. Hodgetts: *Brent, near Ivybridge, Nov.* 13.

COPPER SMELTING.

Sir,—In your Journal of the 4th inst., your correspondent, Mr. A. Merry, expresses his surprise that none of your correspondents have ever communicated to you the *modus operandi* of smelting copper ore; if he will refer to your Journal of the 21st of June, 1845, he will find, under that date, that I communicated to you a paper on smelting, as practised at some of the copper-works in Norway; this embraced the English method, with a slight amalgamation of the German. Though not a scientific sketch, I believe it was found useful as a practical detail of the operations.

London, Nov. 14. J. T. Crowe.

SEWERS—THEIR VENTILATION, &c.

Sir,—There can be no means more sensible or scientific, suggested for the improvement of the sanitary condition of our towns, than the application of *fire* to the ventilation of sewers, and the free circulation of air in our streets and thoroughfares, inclusive of our crowded lanes and courts. Fire is the grand agent of salubrity and purification. It destroys noxious miasmata by decomposition, and is the animus of the atmosphere—its vital pulse; for it sets the air in motion, and its presence is incompatible with a stagnant medium. Endemic diseases would flee before it, and even epidemia and infection become its captives. A series of *fumaroles*, duly supplied with fuel for our sewers, and of fires, disposed as *foci*, at convenient angles in the streets and courts of our cities and towns, would soon proclaim their triumphs in the ample blessing of health conferred on our teeming population; while the scale of the bills of mortality would simultaneously attest their importance. Do not our salubrious sea and land breezes, the beneficient gift of the sun's power, prove the fact? The conclusion is warranted; and mere *assumption* is an element foreign to the deduction.—J. Murray: *Portland-place, Hull, Nov.* 8.

Mr. STAITE'S ELECTRO LIGHT.

Sir,—It is impossible, in my opinion, to appreciate too highly Mr. Staite's electro light. It is brilliant in more senses than one, and is without a rival in any artificial light whatever, because, if I mistake not, it is identical in its nature and properties with "the blaze of day." Its varied application is as great as is the *eclât* of its unrivalled beauty; and none may calculate its extent and value in the economy of life. It seems to me, without a figure, to be the *luminous* achievement of the age; and, if it can be developed and sustained at a moderate cost, it will cast into shadow every other light, from whatever source derived. I cannot well be mistaken in my estimate of its intrinsic value. I have always considered the electro light the *purest* light, as well as the *most powerful*, that can by possibility be obtained. It has been the subject with me of oft repeated research; and I have from my numerous and frequently varied experiments, in former years, maintained the opinion as the offspring of conviction, and founded, as I think, on induction, of its *identity* with solar light. The light is entirely independent of the ambient medium, and effects no chemical change on its condition; therefore, no deterioration of the air can supervene from its use. I have sustained it in media of water, alcohol, ether, sulphuret of carbon, &c., and in gaseous atmospheres of carbonic acid, hydrogene, and nitrogene; the *density* of the medium will alone affect the brilliancy of this light. By the interposition of a prism, I have obtained a spectrum as beautiful as that of the "bow in the cloud;" and though it could not then be sustained of sufficient duration to communicate *magnetism* to a steel bar, and thus realise the experiments made by Monichini and Somerville with the *solar* spectrum (the only link wanting to complete the evidence of their identity) nevertheless of its *actinism*, I had sufficient proof in its chemical effects, such as blackening "horn silver," and in the formation of hydrochlorine gas, by promoting the combination of hydrogen and chlorine. Its peerless purity and brilliancy—its safety (for if the charcoal be perfectly pure, there can be no *flame*)—its intensity and power, and being under entire control, are all of them attributes, recommendatory of its adoption in the economy of social and civil life, and prove that it must eventually supersede gas, and other sources of illumination.

Even the Drummond light, apart from the circumstance of its being unmanageable, and altogether unfitted for the circumstances of ordinary life, must wane before the electro *light*, and cast a shadow in its superior effulgence. The oxyhydrogen light, stationed among the mountains of Mourne, was visible at a distance of nearly 100 miles; but even that space would only be a fraction of the distance illuminated by the electro light—hence for beacons and lighthouses its value is altogether incalculable. I am unable, of course, to determine the cost of production—the only element required for its universal welcome and reception. J. Murray.

Portland-place, Hull, Nov. 9.

STAITE'S ELECTRIC LIGHT—BLAENAVON WORKS.

Sir,—I have been much interested in the discovery of electric light by Mr. Staite—several notices of which have appeared in the *Mining Journal*. In your last Number, it is stated, that "the light is not the result of combustion, it is perfectly safe, may be conveyed to any spot," and "does not require the application of any other ignited substance to set it in action;" beside, it appears, "he demonstrated the independency of the light of combustion by producing it in a globe of *water*." Under these circumstances, I should conceive this light may be made available for the illumination of our mines, whence frequently flow those destructive vapours which so often consign so many victims to the arms of death. Could this be employed, by its cheapness and its more powerful light, it would greatly tend to lessen the awful periods which so often arrive to spread destruction to the laborious inmates of the mine, and which you feelingly deplore in your recent Number.

Mr. Staite, from his experience, is enabled to confirm or repudiate my idea, as to its usefulness and safety in the sombre passages of the mine. Should we be fortunate enough to introduce some safer mode of light, it would obviate any interference of Government, which would always be considered intrusive and annoying.

The suggestion of your correspondent from Blaenavon, for the erection of a forge and mill there, instead of confining the operations of the company to the pig trade, alone would, if properly conducted, be the salvation of the concern. Instead of picking out the best of the coal for especial purposes, as making pig-iron, &c., for sale at scarcely remunerating prices, by getting the *whole of the coal at once*, it would be done at considerably less cost and loss. The superior coal would be applied to the smelting department as heretofore—whilst the small and inferior, now almost an useless article, would be found highly advantageous and effective in working the puddling and ball furnaces, at a very trifling cost. Whence has been derived those princely fortunes which many of the leading characters in the iron trade enjoy, either in Staffordshire or South Wales? They will be found to have been derived more from the proceeds of the forge and mill than from the less profitable concern of the smelting department. Pigs for the forge are made at much less expense and uncertainty than those for foundry purposes, and the whole of your "*make*" may be made useful at your own works; whilst, on the other hand, a part of your pigs, from being too strong or too grey for sale, would lie upon your hands, or have to be melted again at a great loss in that sink of waste and expense—the nearly useless and miscalled refinery. A Subscriber.

Ironbridge, Nov. 8.

RIDER'S RAILWAY BRIDGE.

Sir,—Your correspondent, Mr. T. Motley, in a letter of his, which appears in your last Saturday's Journal, upon "Improvements in Obtaining and Applying Motive-power," offers a "few words" respecting Rider's railway bridge, saying, "The principle of construction and arrangement is somewhat like Smart's patent, though I consider it inferior both in arrangement and economy."

To the opinion of Mr. Motley, unsupported by any proofs, it is impossible to reply; but as to the Rider bridge being "*somewhat like*" that of Mr. Smart, I beg to state, that it is an entirely different bridge, as any competent and impartial person will readily perceive, either from perusing the two specifications, or by examining the respective models.

S. Moulton,
Patentee of Rider's railway bridge.

Bradford, Wilts, Nov. 14.

RIDER'S RAILWAY BRIDGE.

Sir,—Without offering any scientific opinion, which I am unable to do upon Rider's railway bridge, I fully concur in your remarks, and am obliged to you for calling the attention of your readers to the advantages which it distinctly offers. Every improvement, applicable to such expensive undertakings (with us) as railways, ought unquestionably to be thoroughly investigated; and as the public in general is deeply interested in all that concern them, it is certainly not expecting too much from our own engineers that some reason should be given by them why a safe and economical railway bridge, adopted by railway companies in the United States, is not equally desirable for the same purpose in this country. We *talk* about economy—the Americans *practise* it. They can contrive to build iron bridges and *import the iron*. We build wooden bridges and *import the timber*—in other words, the Americans reject *their own timber*, and take *our iron*. We reject *our own stone and iron*, and *purchase timber*, with a heavy duty upon it (of which we are constantly *grumbling*) from abroad! The public press has already done infinite service to the great body of railway shareholders; and to it we must chiefly look for the correction of blunders and the removal of abuses. The time has undoubtedly arrived for unflinching and searching investigation, which your excellent paper has ever been ready to encourage. A Constant Reader.

Nov. 15.

STEAM CARRIAGES ON TURNPIKE ROADS.

Respected Friend,—It is with much pleasure that I am enabled to communicate the result of a careful examination of the subject above alluded to, in conjunction with a thoroughly practical engineer, well acquainted with the principle of steam, and in particular with the working of the Cornish engines,—that in our opinion there is now no doubt finally of the most complete success of Sir James Anderson's steam-carriage for turnpike roads, and that the public will shortly have the opportunity of being conveyed, with *great ease and perfect safety*, at a speed of from 10 to 12 miles per hour, at the average charge of not exceeding 1d. per mile, and yet afford a *large profit* to the proprietors—thus doing away with the necessity of trunk railway companies making costly and profitless branches.

T. Motley, C.E.

London, 11 mo. 16th.

CLARKE AND VARLEY'S PNEUMATIC PILE-DRIVER.

Sir,—Being in London last week, and anxious to see the atmospheric pile-driving machine of Messrs. Clarke and Varley at work, I went to the St. Katherine's Wharf, where you had previously described it as being in operation; when I was informed the engine and entire apparatus had been moved away, and that they had no further connection with the works. The reasons for this change and, to me, disappointment, I did not take the liberty to inquire of the men at the wharf; and being obliged to leave London in haste, I had not time to go to the offices of the company. Can you, or perhaps the patentees will, inform me whether this cessation of the working of the atmospheric principle in pile-driving has arisen from any defect in working, or from its being found to be less efficient and economical than the common pile-engine, of which I observed there were 8 or 10 at the wharf in question. The principle, as applied to pile-driving, appeared to me to be most excellent, particularly as, by the use of zinc tubes and flexible joints, the engines could be removed from one pile to another with the greatest ease; the rapid short blows, and the ram being always at an equal distance from the head of the pile, I considered advantages of no mean consideration; and, if it has proved a failure, it will be a source of much regret to—A Contractor: *Nottingham, Nov.* 15.

IMPROVEMENTS in OBTAINING and APPLYING MOTIVE-POWER.

Respected Friend,—I am glad to find J. Weston is aware, that every candid objection that can be brought against an invention, is of real service to the inventor. This, indeed, is a fact which inventors frequently lose sight of, if one might judge by the manner in which they are apt to take those objections. My knowledge of the principle of his invention has been, it is true, gathered principally from the abstracts; and not having seen the specifications at length, nor the diagrams illustrating the details, I may not be able to see all the advantages which it presents; yet as the abstracts have been furnished from the specification by Mr. Campin, the patent agent, we may conclude that the description is correct, as far as it goes; at all events, it has been sufficiently explained to enable scientific men to comprehend the end aimed at by the inventor; but it appears I was in error, in stating that the steam is to be *instantaneously* condensed after passing through the cylinders of the engine, but I had understood that the steam is to be used for forming a vacuum in the propelling tube, and, if so, the vacuum cannot be formed until the steam is condensed, or has disappeared through the valve, which amounts to the same thing—at least, it seems something like hypercriticism, to point out the difference between my description and that of the inventor. In alluding to the valves and pistons along the line, I did not wish to infer that they were complicated any more than ordinary cogs—taking each separately, they are as simple as any machinery can be; I wished simply to point out, that the great

number required to be kept in *working* order, might lead to some difficulty, by being all distinct from each other, and yet requiring to be *all* in perfect order, to ensure the economy which the inventor promises; but in giving my opinion, I do not pretend to be an oracle, capable of deciding the subject. The plan, in its present state, may be superior than is apparent to my limited vision; I hope, for the sake of the inventor, that such may be the case.

The remarks of T. Motley on my condensing locomotive engine, wherein he states that T. Clarke has been occupied on the same subject, proves a singular fact in relation to the invention. This, however, is not the first time that such has occurred to me, in bringing a new plan to light. I allude to the atmospheric railway tube without a valve, which was invented about the same time by my friend, A. T. J. Martin, without either being aware that the same plan was in the other's brains. But to return to the principle of condensing the steam of locomotive engines. I believe it will be universally admitted, that should the plan be brought into operation, it would greatly increase the power without increasing the weight—a very important matter, if it can be done without difficulty. I have also some arrangements for removing the axle shaft of the driving-wheels out of the way of the boiler, by a totally different plan to any patented, but a diagram would be required to illustrate the idea. I hope that Clarke and Varley will succeed in placing a condensing locomotive engine on the railway; their names is a sufficient guarantee, that when they have matured the plan, it will be free from complex details.

Liverpool, 11 *mo.* 14*th*. —— JOHN DE LA HAYE.

SMELTING.

SIR,—I have awaited, the past few weeks, in expectation of some further observations from your correspondent on the subject of smelting, and the advantages attendant on the trade being thrown open, so far as destroying the monopoly which exists, and suggesting some *modus operandi* whereby such could be effected; but it would appear I am left alone in the field; and, that I should not be charged with want of argument, or want of zeal, in treating upon the question, I now resume the subject, which I hope will form a more important feature than it has of late done in your columns. I have, since my last, had the opportunity of consulting with several parties on the subject, who all admit its importance; but while they express their desire to promote so desirable an object, yet for reasons very readily understood, hold themselves aloof—in short, what is required is a nucleus. How to form this remains to be seen. The mine adventurer is fully conscious, that with the late Government measures, he must, if he expects to work his mines with profitable returns, look to aid from some other quarter, to counteract the ill effects calculated to arise therefrom; and as he cannot ensure greater returns of ore at a less cost, as he cannot diminish the rate of labour, and as he proceeds with his operations in depth, his surface cost becomes heavier, and naturally looks to some indirect channel, whereby he may reap a return for the capital he has invested. He is deeply impressed with the injustice done to the miner by the smelter; but he naturally asks himself the question, to whom is he to go—where to sell his ores—where to raise the money for prosecuting his workings? Like to those dependent on the usurer for money, he must be content to pay dear for the accommodation. It is not sufficient to say, why submit to it? The answer is, I have no help—no, not even to withdraw my ores from sale at a ticketing, if I be not content with the standard, which may have fallen some 3 or 4 per cent. since the last ticketing, and in no way to be accounted for, but that the smelters do not require the ore, or have no capital to spare—not to observe on the large imports from abroad, of which, at the moment, they wish to avail themselves at a depressed standard. The evil is so manifest—the position of the miner so evident, being at the mercy of the smelter, he not being able to retain his ores on hand, and thus starve out the smelter—that nothing but an entire change can produce any beneficial effect. This the smelters well know; they know that the miners are like a bundle of sticks, which separate may be broken—united they would resist all attempt. The body of smelters are a small but united phalanx; they each depend upon the other in one sense; and the case of the Miners' Company, cited on a former occasion, is in itself most illustrative of the position of parties at the present moment, who reflect on the expectation raised, and the results; and I repeat, without some "revolutionary movement" the *ancien regime* will not only continue, but with every prospect of being handed down to posterity. How to bring about a change is the question. A few able generals, with plenty of shot in the locker, and some intelligent pioneers, with the adjunct of Cornish and Devon forces, might strike terror into the enemy, and cause them to alter the constitution of *their* realm; or, by establishing an independent Government, the miners might constitute a tribunal, who would have the power of seeing that justice was done: in a word, the miner must, in the end, become the smelter, and no longer be dependent on a body whose only care is self. Again, the question arises, how is this to be accomplished? How difficult the task of forming this union of interests with union of strength. Yet I despair not, if that meetings were held, or that the voice of the miner was raised, but that this important and highly desirable object might be effected. An independent association was, I understood, in course of formation for that purpose, but I have not heard of late they have been actively progressing; however, it may be, that they are strengthening their forces, and concentrating their strength, ere they come into the field, in which case they act like prudent generals; while they must bear in mind, that whenever they advance the first step, they have two parties who will look anxiously and suspiciously on their movements—the one the little but powerful party of smelters—the other the numerous but comparatively powerless party of mining adventurers. If that this measure be such as to give confidence to the latter, and if they can show they have the means of protecting their interest, then is it only natural to suppose that their strength will be increased, their prospects advanced, and, in the end, their victory secured. In thus hastily writing you on the subject, my object is rather to agitate the question than to put forward any fresh argument, for the case is too obvious to require any beyond those which have so frequently appeared in your columns.

London, Nov. 16. —— H. E.

RETURNS OF THE PRODUCE OF MINES.

SIR,—I observe, in your last Number, your comments on the suggestion of a correspondent, who recommends that every mining company should transmit to you the produce of their mines, made up to a given period, so that the aggregate quantity of ore, its average produce, and price, might be given, and thus an accurate statement made of our mineral produce. That such a statement would be highly desirable no doubt can exist, but I see, with you, that it would be attended with much difficulty; indeed, I can only see one way for such object to be arrived at, or rather, I should say, approached. It is not by looking to the company as a body, through their officers, to furnish you with the data, but to the individual shareholder, who, possessing the means by virtue of the reports and accounts periodically furnished, would enable you to arrive at something like a result. There are many reasons which might be assigned why the companies would not furnish the information, but there are none, that I am aware of, which can influence the adventurers in any other way than a desire to give publicity; and, at the same time, affording information to others, prompting them, by his example, to follow in the same course, and thus adding to the stock of knowledge connected with mining enterprise. I believe that much information could be given you by parties in Liverpool, and the private sales in Cornwall and Devon of themselves are very considerable, which surely might be obtained from some adventurers. Of course, you cannot expect anything from Parliamentary returns, as they are confined simply to the imports and exports, and do not affect the produce of our home mines, which are private adventures; and as not being subject to any duty, or surveillance, of the Government, cannot afford any data, which, without returns from private quarters, must necessarily be confined to the Ticketing Papers. I do not exactly see the force of your argument as to the difficulty which you apprehend of adventurers furnishing the information, which you apprehend would arise "under the present smelting monopoly," with "the fear of retaliation before their eyes." I here beg to differ with you: the adventurer, I admit, is compelled to sell his ores to "the monopoly," but that does not preclude him, whether the sale be effected by private contract, or by public ticketing, from making known the returns of the mine, the produce and price realised, any more than it does giving publicity to the monthly cost, the calls, or dividends made. The miner here is independent of the smelter, and this I would wish to impress on the adventurer; while by courting publicity, and comparing his notes with others, he would find out whether he was most benefitted by private sales or public ticketing.

As to the smelters throwing every impediment in the way of disclosing "the secrets of the prison-house," this can only apply to their profits, but has nought to do with the produce of a mine, or the amount of sales of ores. I do not agree with you, that every mine should be compelled to keep a correct account of the quantity raised and sold, and make an annual return of the same. Mines are private enterprise, and if the adventurers think it their interest to come before the public, that is with them to do; but I do not see that the Legislature has any more right to interfere with them than with the produce of a farm, or the returns of any mercantile firm, except through the medium of the inquisitorial income or property tax, which is quite enough, methinks, to satisfy any lover of "legislative enactments."—E.: *Perranzabulos, Nov.* 13.

THE COPPER TRADE.

SIR,—The last official returns of the Board of Trade, relative to the imports of foreign and colonial merchandise, indicate a considerable increase in the quantity of copper ore and of the metal, since the imports of copper ore for the nine months, ending October 10th of this year, were 39,941 tons, for the corresponding period of last year only 28,652 tons—while the increase in copper was in a much greater ratio—it is very evident that, unless considerable improvements be made in smelting British ores, these importations are likely to be immensely increased in consequence of the recent great reduction of the duties. Fortunately for the copper miners of the west of England and south of Ireland, the process of reducing their ores is susceptible of vast improvement. It is now about 30 years since a gentleman, who had the management of some mines in the east of Ireland, availed himself of a chemical fact, which has been known more or less for centuries, to extract copper from the sulphate, by cementation with iron, which is merely the iron dissolving in the acid of the salt, and taking the place of the copper. The copper, however, by this method was mixed with sub-sulphate of iron; but even then it brought 27*l.* 8*s.* 9*d.* per ton, and amounted in the aggregate to 12,126*l.* 18*s.* 1½*d.*

Sir R. Kane, in his valuable memoir on the *Industrial Resources of Ireland*, has unluckily a typographical error in reference to this subject—having stated the value to be 12*l.* 12*s.* per ton, instead of 27*l.* 8*s.* 9*d.*; I say unluckily, for so excellent a chemist must have great weight in all his statements; and this error on so important a subject has been overlooked in a reprint. Had Mr. Weaver, the gentleman alluded to, experimented further on this mode of separating copper from sulphur, he would most likely have arrived at results that would have rendered him and his partners completely independent of the smelters at Swansea, and have set the example, long before the colonists of Australia, of not only raising the ore, but of extracting the metal, and converting it into some of the commoner articles of utility for which it is so well adapted.

Indeed, all improvements in smelting British copper ores must be founded on the above well-known fact, which cannot but be admitted by almost every one who is conversant with chemical analysis and assaying. It is not so well known, however, that when iron pyrites, such as raised at the Ballymurtagh Mine (which contain from 1 to 2 per cent. of copper, and about the same quantity of zinc), are roasted in kilns; nearly all the sulphur of the iron and zinc is driven off, in the first place, as sulphurous acid, by the heat; but none of the sulphur of the copper is *volatilized*, it undergoes oxidation, however, at the same time with the copper; for on lixiviating the ashes with pure water, we have immediately in solution sulphate of copper, then sulphate of zinc, and, lastly, sulphate of the protoxide of iron —not the sulphate of the peroxide of iron, as was stated erroneously by some person in vol. 22, for 1843, of the *Philosophical Magazine*.

In order to show the advantage of this process, I may mention that I have, but on a small scale comparatively, extracted with ease from powdered commercial iron pyrites, containing not more than ½ per cent. copper, the whole of the copper in a pure state; and, while operating upon some hundreds of tons of the common Irish pyrites, have obtained some thousands of gallons of solution of sulphate of copper, even when the ashes of the mundic were as large as walnuts. Now, as chemical science has progressed amazingly during the last 30 years, the sulphur of the copper ores can now be saved with great advantage, and precautions can be taken, at little or no expense, to guard against the formation of the disulphate of iron precipitating with the copper. By operating on this system most of the metals, which are so numerous in copper ore, can be separated, one after the other. An advantage, of no mean consequence for some districts of Cornwall, particularly Fowey, where copper ore is raised largely impregnated with silver; and I have good reason for believing that silver generally is raised with copper to a larger extent than it is with lead ores; but, from the common mode of smelting our ores, it is wholly lost. The success attending Mr. Pattinson's process of de-silvering lead, ought to convince—if further proof were wanted—what can be done by the play of other chemical forces, than the present long-continued application of fire to de-sulphur copper ore. But I will end with asking a question, if it be easy to extract ½ per cent. of pure copper from commercial iron pyrites by chemical affinity, how much easier must it be from copper ore of 7½ per cent.?—WILLIAM BIRKMYRE: *London, Nov.* 17.

IRON AND ITS VARIOUS CONDITIONS.

SIR,—Mr. Radley seems to forget that I stated, as a reason for my coining a fanciful name for the peculiar cinder formed in the puddling operation, and entering into the composition of bar-iron, a desire to distinguish it from all other compounds, to which the general term "cinder" is applied. I confess I do not exactly comprehend the last sentence of Mr. Radley's letter. The "tap cinder" consists, no doubt, of a portion of fused material from the furnace, mixed with the cinder which I presume to denominate carb-oxide. I have given an opinion upon this subject, as I have before stated, not from natural experiments, but from close observation and reasoning upon the facts of the case. I consider this stands good until overturned by some sounder argument; I am anxious to arrive at the truth, and this is my sole object in entering upon the discussion. I do not dispute the existence of silicate of iron in cinder, but I suspect some error exists in calling every compound of iron, in the state of cinder, a silicate. I am not conversant with all the manipulations practised by assayers and analytical chemists, but I think they may mistake carbon for silica. If they treat cinder with acids, and regard any precipitate not soluble as silica, without further investigation, a considerable portion may be carbon.—T. H. LEIGHTON: *Nov.* 13.

CESSION OF CUBA TO THE UNITED STATES.

SIR,—By the accounts which have just been received, announcing that arrangements are nearly concluded between the United States and the Spanish Government, for the cession of the Island of Cuba to the former, and the payment of a sum of about 4,000,000*l.* sterling, as compensation to her Majesty Queen Donna Isabella, for the transfer, has created some sensation in the City, particularly among those connected in mining affairs with the Havana. It is well known, that the Spanish treasury has been, for a long time, in a state bordering upon bankruptcy—that it has not the means of paying the army and other departments regularly, which causes a constant fear to the Government, lest an outbreak should take place—not only at Madrid, but in the provinces, where discontent prevails, to a great extent, among all classes. The greater portion of the Royal domains, or State property, is heavily mortgaged (among which may be mentioned the rich quicksilver mines of Almaden) to the wealthy house of Rothschild, and unable to pay the dividends due upon its bonds, or even from this country. After trying various ways and means to recover its credit, the sale of the Island of Cuba—so long coveted by the Americans—is a last resource to save its honour. The Havana is, with the exception of Porto Rico, the only remains of Spanish authority in the West Indies, South America, and Mexico, of the conquest and discovery by Columbus and Pizarro. It has been an enormous expense to the mother country, and only kept under by force of the bayonet, as the slaves, who are very numerous, have long been wishing to emancipate themselves, and the inhabitants to throw off the yoke of the Court of Madrid, which would ultimately be successful, should a revolution take place in Spain. The question now is, will the British Government allow that important island to become a possession of the United States? which will prove, in all probability, a great annoyance to our West India planters, and compromise a very large portion of British capital invested in mining enterprise; as, should the Americans get it into their hands, there will be but very little chance for English adventuters and speculators. The subject is, it is stated, under the serious consideration of Lord Palmerston, the Secretary of State of Foreign Affairs. The following will show the importance of this island to the United States:—Cuba, of which Havana is the capital, is the most westerly of the West India Islands; and, compared with the Archipelago, has decidedly the greatest superficial extent of terrritory, lying at the mouth of the Gulf of Mexico. Its greatest length in a straight line, from east to west, is 572 miles—the superficial or territorial extent is 31,468 square miles—the population upwards of 860,000. The distance from Kingston, Jamaica, to Havana, is 740 miles, and there are constant steam communications between it and the other of the islands, Santa Cruz, New Orleans, &c. Eleven miles from St. Jago de Cuba there are some high lands, known as the Cobre or Copper Mountains, the ore of which varies from 16 to 18 per cent. The average exports of this metal, particularly to this country, exceed 24,000 tons per annum. Silver mines are also known to exist, but as yet have not been much explored. There is now a railway from Cobre to the Bay of St. Jago, so that the greatest facility is afforded to the adventurers to export the ore. The great resource of this island, at present, consists in its exportations of sugar (slave worked) and tobacco, to nearly every part of the world; but its mineral riches are very extensive, and large quantities are exported. This the Americans, should they get possession of it, will not fail to turn to the greatest advantage. A line of steamers would soon be established between Cuba and the Brazils, so that they would ultimately chiefly monopolise the commerce of the western and southern hemispheres.—T. S.: *Cornhill, Nov.* 11.

CORNWALL RAILWAY.

SIR,—All works on this railway have ceased, and the two contractors, Messrs. Findlator and Drew, have sold by auction all their horses and other property, that were employed on it. It is a subject of regret that, at a time when employment amongst the mines is so unusually deficient, these works should have been suspended. When they will be resumed, it is impossible to say; but it is generally believed, that the present company are not competent to carry the works to completion. Our hopes rest on the amalgamation of the three great companies, who will, probably, either by purchase or assistance, complete the line. About 200,000*l.* have been expended by the company; but the greater part of this sum is gone in preliminary expenses—little, comparatively, having been expended in works. One important benefit will arise from the aforesaid amalgamation —viz.: the prevention of all litigation in contention for lines, in which such enormous sums have been wasted by the several companies.

November 14. —— A READER.

EARTHENWARE PIPES FOR CONVEYING WATER.

SIR,—I always read with attention the communications of your intelligent correspondent, Dr. Murray; and being interested in a matter treated on by him in your last Number, as to the substitution of earthenware pipes for cast-iron, I should feel obliged if your correspondent would inform me whether, if the interior of the latter were coated with that description of enamel used for culinary cast-iron ware, it would not prevent the action of which he complains? I am aware the first cost would be greater than that of earthenware solely, as recommended by that gentleman, but the pipes would not be subjected to breakage, or the effects to be apprehended from frosts, &c.—AN IRONFOUNDER: *West Bromwich, Nov.* 14.

GAS FROM WATER.

SIR,—Several communications having lately been made public through your Journal, on the subject of obtaining gas from water, I beg to state, that the late Mr. Richard Skinner, of Gwennap (whose mysterious disappearance, in 1846, occasioned so much regret in the circle of his acquaintance), was engaged several years in perfecting a plan for effecting this object. I know that he incurred considerable expense, and also devoted much time to the subject; and, although I was rather sceptical as to his success, he stated to me, at the last interview I had with him, that his success was *certain*. Whether his discovery was precedent to that of the other gentlemen who have laboured in the same field, I am not prepared to say; but, having neither heard or read anything on the subject till very recently, I am inclined to the belief that Mr. Skinner's discovery was earliest of all.—R. SYMONS: *Truro, Nov.* 15.

FRENCH POST-OFFICE CONTRACT FOR COALS.—The contract for supplying the French Post-office department with 39,400,000 kilogrammes (35,178¾ tons English), of large coals (*charbon de terre en roche*), for the service of the National Post-office steam-packets at Calais, Marseilles, the Mediterranean, Levant, and Egypt, will be strongly competed for by the English coal proprietors, those of Belgium, and the companies of the department of the Loire, who are proprietors of the extensive coal mine of St. Etienne, Rive-de-Gier, Grand Combe, D'Anzin, Alais, &c., which are monopolised by them. The tenders will be received on Monday next, the 20th inst., in the council room of the General Post-office department, Paris, where the *cahier des charges*, or terms of contract, are deposited for inspection, as well as at the office of the French Consul-General, London, the French Embassy, Brussels, at the Prefecture of the Department of the Loire and Sous, Prefecture of St. Etienne, at the town-hall (*mairie*) of the Rive-de-Gier, and the packet department at Marseilles and Calais, and the post-offices at Dunkirk, Boulogne-sur-Mer, Havre-de-Grace, Cherbourg, Brest, Rochefort, Lorient, Toulon-sur-Mer, Bordeaux, Lyons, and Valenciennes. This being the first contract of the National Government since the formation of the Republic, it excites unusual interest to the colliery monopolists of France, as the preference has always been given to English coals for the Government steam-packets, and for the Navy, in consequence of their superiority, power, and price, with which they have never yet been able to compete. Belgian coal will also be allowed for competition, but on condition that it must be equal to the Newcastle, Durham, and Cardiff coal, and an authenticated declaration that it is the produce of the Belgian mines as well as those of France. This partiality for British coal excites a very great jealousy on the continent, not only in the mining but in the shipping interest. The following are the periods and places at which the coals are to be delivered:—At Calais, from the 1st to 31st December, 1848, 150,000,000 kils.; from the 1st to 31st January, 1849, ditto; 1st February to the 28th, 100,000 kils.; 1st March to 31st, ditto; 1st April to 30th, 300,000 kils.; 1st May to 31st, 250,000 kils.; 1st June to 30th, 250,000 kils.; 1st July to 31st, 300,000 kils.; 1st August to 31st, ditto; 1st September to 30th, ditto; 1st October to 31st, 200,000 kils.—total, 2,400,000 kils. At Ajaccio, 1st January to 31st, 1849, 150,000 kils.; 1st June to 30th, ditto—total, 300,000 kils.; and the same quantity at Bastia. At Marseilles, first delivery from 1st February to 31st October, in quantities of 1,100,000 kils., 1,200,000 kils., and 1,300,000 kils.—total, 11,000,000 kils. Second delivery, of 100,000 kils., 200,000 kils., and 300,000 kils.—total, 1,900,000 kils. At Malta, from 1st January, 1849, to 31st Oct., 14,000,000 kils. At Athens, from 1st March to 31st October, 1,000,000 kils. At Constantinople, from 1st February to 31st October, 3,000,000 kils. At Alexandria, from 1st February to 31st October, 5,500,000 kils. The Post-office department to have the facility, by giving three months' previous notice to the contractors, without extra charge, to have the deliveries for Malta (14,000,000 kils.), made at any other stations in France, Italy, Sicily, and the Levant.

BOILER EXPLOSIONS.—It gives us great pleasure to notice the praiseworthy exertions now being made by the ironmasters in South Staffordshire to prevent accidents by steam-boilers, which unhappily of late years have been of so frequent and disastrous occurrence in this neighbourhood both to life and property. We learn that in addition to the many precautions already adopted, the ironmasters are entering into a union generally to employ an inspecting engineer, to examine and report monthly to them upon the working condition of all their boilers and engines. This plan is carried out to a great extent, and with perfect success, we believe, in Cornwall, and although the low price of coals may be considered a reason, in a pecuniary point of view at least, why it need not be followed out to the same extent in this district, we are sure that great improvements may be made, and that in a commercial point of view it would be found of much value. It must also prove very satisfactory to the foremen and engineers employed in the different establishments, since, by the adoption of the proposed plan, much responsibility will be taken from them in cases of accident, and the rumoured interference on the part of the Legislature would also be rendered unnecessary.—*Birmingham Journal.*

CALIFORNIAN GOLD.—As considerable doubt seems to prevail in regard to the discovery of gold in the sands of the river Sacramento, in Upper California, we may observe, that the evidence is not confined to the American papers (which are supposed sometimes to be more anxious to record the marvellous than to ensure its authenticity), but is confirmed by a letter received in Liverpool from the manager of the quicksilver mine near San Francisco (the town deserted for the gold region), dated 31st July last, in which he states, without expressing the least doubt as to the existence of the gold, that "all his workpeople had left him for the gold district." It is worthy of remark that the quicksilver was as much doubted when first discovered, about two years ago, as the gold is now. The discovery of this quicksilver, in a region so near the silver mines, is calculated to have a beneficial effect upon the interests of the latter, by permitting the working of many mines on the north-west coast that would otherwise stand idle in consequence of the scarcity and dearness of quicksilver, owing to the monopoly of it in Spain. At the last accounts 600 quintals were ready for shipment at San Francisco, for the conveyance of which to Mazatlan the *Cayuga* had been chartered at the latter port, whence she sailed on the 4th July to take it down.—*Liverpool Albion.*

MINING ENTERPRISE.—We learn, says the *Corpus Christi Star*, from one of the traders who recently arrived from beyond Laredo, that a mining company, with a capital of $400,000, were making arrangements to work the mine between that place and Monclova, and that some of the machinery had already arrived. The mine is said to be a very rich one, and has not been worked since the expulsion of the Spaniards—we presume, owing to its proximity to the Indian ranges. For years, many of the poorer people have washed out the metal in small parcels, and more than $10,000, thus procured, has been brought to Corpus Christi in exchange for goods. Now that the Indians will be kept in check by our soldiers, the company can pursue its labours uninterrupted; and we wish them success, not only for their own good, but for the benefit it must be to Corpus Christie.—*New York Herald.*

MASSIVE COPING STONE.—One solid block of Anglesea stone, weighing, before dressing, 27 tons, has just been placed in work as part of the coping of the arch over the western entrance of the tunnel by the Bangor station of the Chester and Holyhead Railway. The arch is extremely massive, and must have cost an immensity of money.—*Welshman.*

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For plans of the vessels, rates of passage-money, and to secure passages, and ship cargo apply at the company's offices, No. 122, Leadenhall-street, London; and 57, High-street, Southampton.

NOTICE TO SHIPPERS OF GOODS AND PARCELS,

per PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY'S STEAMERS, to INDIA and CHINA.—GOODS and PARCELS sent direct to the company's parcel office, on or before 6 P.M., on the 17th of each month, are forwarded at less cost to shippers than when sent through any intermediate channel. Cases must not exceed 112 lbs. weight each, for Aden, Ceylon, Madras, Calcutta, and China; and 40 lbs. each case for Bombay. No package for India or China can, under any circumstances, be shipped at Southampton, unless it be cleared through the Custom-house, and placed alongside the steamer by noon on the 19th of each month. 39

Detailed particulars can be obtained on personal application, or by writing. Parcel Department, 122, Leadenhall-street.

MINERAL PROPERTIES AND ESTATES.—

Mr. HENRY ENGLISH begs to intimate to the PROPRIETORS of MINES and MINERAL PROPERTIES, as also to ADVENTURERS in MINES, that REPORTS and SURVEYS, with PLANS and SECTIONS, illustrative thereof, will be FURNISHED by him, being aided by agents in the various mining localities, of undoubted practical knowledge and experience. Information or advice rendered on all points touching mining pursuits, which Mr. H. English feels himself competent to afford, as the result of his personal investigation and inquiries during several years of his connection with the several mining districts.—Estimates given for exploring or proving mining ground, as also the machinery requisite, with drawings.

OFFICES—No. 26, FLEET-STREET, LONDON. 40

FOURDRINIER'S PATENT SAFETY APPARATUS, for

PREVENTING ACCIDENTS IN MINES AND OTHER PLACES, WHEN THE ROPE OR CHAIN BREAKS. 41

By the ADOPTION of this INVENTION the LIVES of the WORKING MINERS may be PRESERVED, and the PROPERTY of the MINE OWNERS PROTECTED from the serious consequences of either of the following accidents—viz.:

1. From the men, or the load, being precipitated to the bottom of the shaft when the rope or chain breaks: in this case the apparatus is *self-acting*.
2. From either the men, or load, being drawn over the pulley: in this case, also, the apparatus is *self-acting*.
3. From the fearful consequences to men or load of a "whirl," or run: in this case the result is equally *certain*.

A COAL PIT, with the SAFETY APPARATUS ATTACHED to the CAGE, is daily at WORK near BURSLEM, in the STAFFORDSHIRE POTTERIES.

To inspect the apparatus, or to obtain any further information, application may be made to Mr. Edward N. Fourdrinier (the patentee), Cheddleton, near Leek, Staffordshire; or to Mr. Joseph Fourdrinier, 9, College-place, Camden Town, London—who are prepared to GRANT LICENSES for the USE of the PATENT.

PATENT ELECTRIC LIGHT.—All COMMUNICATIONS

to the patentees or proprietors are requested to be ADDRESSED to their solicitor, Mr. Price, 6, Throgmorton-street. 42

PATENT MINERAL PAINT.—After three years' trial on the

sides and bottoms of iron and timber-built ships, this PAINT has proved itself equal to copper as a protection from vegetation, as well as the sea-worm and all other adhesive matter. It is also peculiarly adapted for spouts and gutters, iron railing, felt or wooden roofs, tarpaulings, damp walls, or any other surface that requires to be made waterproof at a small cost, and is ready for use, in casks of 2 to 20 gallons—only 2s. per gallon.—EMERSON'S PATENT PAINT, stone colour, for fronts of houses, ready for use, in casks of 1 cwt. and 2 cwts., at 8s. and 15s. GEO. LEAR & CO., Sole Agents, 2 3 16, Basing-lane, Cheapside.

PATENT GALVANISED IRON AND WIRE ROPE WORKS

MILLWALL, POPLAR

ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £20, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging. 44

TELEOMETER.—An easy method of converting a common

telescope into an instrument for measuring distances (as this name implies) has been discovered by Mr. YATES, of WHITTINGTON, near OSWESTRY, by which a survey of from 100 to 200 yards, according to the powers of the telescope, may be ascertained with accuracy, and the readiest facility, in about one or two minutes, whether the object be inaccessible by the intervention of an impassable river or other obstacle. Communication of the principle, and instructions to persons desirous of the acquisition, may be had from the inventor, for a reasonable remuneration. As simplicity is the perfection of art, this discovery has the advantage of being totally unembarrassed with any complex 45

PATENT IMPROVEMENTS IN CHRONOMETERS,

WATCHES AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 46

DENT'S PATENT DIPLIEDOSCOPE,

or Meridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

PATENT ALKALI COMPANY'S IRON PAINT.—This

PAINT is the PRODUCT of a PATENT PROCESS, and possesses PECULIAR and VALUABLE PROPERTIES, not otherwise attainable.

Its colour (as at present produced) is a rich *purple-brown*. It is perfectly free from the deleterious qualities of white lead.

It surpasses all other paints ever yet discovered, in point of *durability* and *economy*. Two coats of this paint are more than equal to three of any other description. 47

From its chemical composition, it is pre-eminently adapted for covering *iron*; also *wood*, and *stuccoed*, or *brick buildings*. The process by which the base of this paint is produced, makes it impossible that any change should take place in its composition from atmospheric influence. Its identity with iron secures it from galvanic action, so fatal to the durability of lead and other paints on iron work.

It has been exposed on shipping to the action of sea-water, and of the sulphuretted hydrogen, so prevalent in sea-ports and tidal harbours, for more than three years, without change.

Its *cheapness* and *strength* render it peculiarly suitable for *iron bridges*, *roofs*, and *railings*, *farm buildings*, and *shipping*. It will also cover creosoted timber.

Price, by the ton, £25, delivered in London, exclusive of packages.

Agents will be appointed for the principal towns in the United Kingdom; in the mean time, orders may be addressed to the offices of the company, No. 20, Fenchurch-street, London. JOHN A. WEST, Secretary.

THE PATENT OFFICE AND DESIGNS REGISTRY,

No. 210, STRAND, LONDON.

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees. 48

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years' experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

WOODEN GUNPOWDER.—From sundry recent experiments the fact is established that fine sawdust, or rasped wood, steeped in a mixture of concentrated sulphuric and nitric acids, and afterwards washed and dried, will explode similar to common gunpowder, and, if rightly managed, with much greater force. The greatest wonder about it is that the fact had not been discovered earlier. —*American paper.*

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Chester Main 15 6—East Adair's Main 14—Ravensworth's West Hartley 15 6—Smith's Pontop 13 6—South Peareth 14 3—Tanfield Moor Bute 15—Walker's Primrose 13 6—Wylam 14 6—Wall's End Brown's 15—Elm Park 16 9—Framwellgate 16 9—Hedley 16 6—Hedworth 15—Killingworth 15 9—Lambton Primrose 17 9—Haswell 19 6—Lyon's 18—Whitwell 16 6—Caradoc 18 3—Hartlepool 19 3—Ludworth Steam-boat 15—Thornley 17 6—Seymour Tees 17 3—West Cornforth 17—Whitworth 15 6—Derwentwater Hartley 16—Fordel Steam 14—W. E. Elgin 15 6.—Ships at market, 309; sold, 81.

WEDNESDAY.—Bate's West Hartley 15 6—Buddle's West Hartley 16—Davison's West Hartley 16—East Adair's Main 14—Hasting's Hartley 15 6—New Tanfield 15—Ord's Redheugh 13 6—Ravensworth's West Hartley 15—Townley 14 3—Wall's End Acorn Close 16 6—Bewicke and Co. 16 6—Brown's 15—Elm Park 16—Clennell 15—Clarke and Co. 15—Heaton 16—Harton 16 3—Hotspur 15 9—Hedworth 15—Killingworth 16—Peareth 14 6—Eden Main 17 6—Lambton's Primrose 17 9—Braddyll's Hetton 18 6—Hetton 19 —Haswell 19 3—Lambton 18 6—Russell's Hetton 18 6—Stewart's 19 3—Whitwell 16 6 —Hartlepool 19 3—Hudson's Hartlepool 16 6—North Hartlepool 17—Ludworth Steam 15—South Hartlepool 17—Thornley 17 6—Trimdon 17 6—Benson 16 6—Tees 18 6—West Hetton 16 6—Whitworth 15 6—Derwentwater Hartley 15 9—Hartley 15—Howard's West Hartley Netherton 16—Nixon's Merthyr 22—Sidney's Hartley 15 6.—Ships at market, 331; sold, 89.

FRIDAY.—Bate's West Hartley 15 6—Buddle's West Hartley 16—Chester Main 15—Adair's Main 14—Hasting's Hartley 15—New Tanfield 15—Ravensworth's West Hartley 14 6—Tanfield Moor 15 6—Tanfield Moor Bute's 14 6—Wylam 14 3—West Wylam 14 6 —Wall's End Acorn Close 16—South Killingworth 14—Eden Main 17 6—Lambton Primrose 17 3—Belmont 17 6—Bell 17—Hetton 19—Haswell 19 3—Stewart's 18 6—Hartlepool 19 3—Hudson's Hartlepool 16 6—Kelloe 17—South Hartlepool 17—West Hartlepool 18 6—Deneon's 16—Seymour Tees 16 6—West Hetton 16 6—Ships, 279; sold, 69.

RAILWAY AND OTHER IMPORTANT RECORDS,

EFFECTUALLY PROTECTED FROM DAMP AND VERMIN.

Extract from the Appendix to the Second Report of the Commissioners on the Fine Arts.

"In 1839, I superintended the construction of a house, of three stories, on the Lac d'Enghein. The foundation of the building is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered at the level of the internal ground floor with a layer of

SEYSSEL ASPHALTE,* 49

less than half an inch thick, over which coarse sand was spread. Since the above date, no trace of damp has shown itself round the walls of the lower story, which are, for the most part, painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water. The layer of asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots, indicating the presence of damp, have been since remarked at the base of the door-posts.

The DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of ENGINEERS and ARCHITECTS the application of the ASPHALTE of SEYSSEL, as the *only effectual* mode of preventing damp in basement floors, and water from percolating through the ARCHES of a VIADUCT.

The arrangements of this company enable works of any extent to be executed with the greatest promptitude. I. FARRELL, Secretary.

SEYSSEL ASPHALTE DEPOT, STANGATE, LONDON.

ESTABLISHED 1838.

* This method has been adopted at the New Houses of Parliament.

SIR W. BURNETT'S PATENT FOR THE PRESERVATION

OF TIMBER, CANVAS, &c.

This PROCESS hardens and improves the texture of wood. It enters into permanent chemical combination with the ligneous fibre, and does not come to the surface of the wood by efflorescence, like other crystallisable salts; and no amount of washing or boiling in water will remove the chemical compound so formed.

It PRESERVES WOOD and OTHER ARTICLES from the adherence of ANIMAL and VEGETABLE PARASITES, and also from the attacks of INSECTS.

It completely PRESERVES WOOD from WET and DRY ROT. 50

It renders the WOOD PERFECTLY UNINFLAMMABLE, when used of a certain requisite strength.—See Letter, dated *"Admiralty, August* 14, 1845.

"SIR,—In reply to your letter of the 9th inst., with its inclosure from Sir William Burnett, I am commanded by my Lords Commissioners of the Admiralty to transmit to you for the information of Lord Stanley, a copy of a report from the officers at Portsmouth Yard, upon the effects of his solution, applied to the purpose of preventing ignition in timber, or, rather, to prevent it breaking into flames. In consequence of that report, my Lords have ordered the bulk-heads in the holds and magazines in her Majesty's ships to be fitted with timber so saturated, and it is also applied largely to the various buildings in her Majesty's dockyards.

"I send, for Lord Stanley's further information, a copy of a statement of the price per load of preparing timber for building purposes.

"G. W. Hope, Esq., &c., &c." (Signed) "W. A. B. HAMILTON, Secretary.

ITS EFFECTS ON CANVAS, CORDAGE, COTTON, &c.

The preparation preserves these articles from mildew and rot. It renders them more pliable; does not in the slightest degree discolour them; and washing or boiling in water will not remove the combination from their fibres.

Further information may be obtained, specimens seen, and special terms entered into, when the quantity of materials to be Burnettized is large, on application to Mr. JACKSON, Secretary,

AT THE OFFICES, 53, KING WILLIAM-STREET, LONDON-BRIDGE.

IMPORTANT TO EMIGRANTS.—UNITED STATES OF

AMERICA (in the State of Georgia).—FOR SALE, ONE HUNDRED AND TWENTY THOUSAND ACRES OF FREEHOLD LANDS.

The above lands lie between 31° and 32° north—distant from the sea about 100 miles, and from England 18 or 20 days' sail. Climate delightful, and locality healthy—bounded by the great navigable rivers, the Flint and the Ocmulgee—by the former a communication is open with the Gulf of Mexico, the Floridas, Texas, New Orleans, the Mississipi, and Melsme Rivers, navigable for several thousand miles; and by the latter (the Ocmulgee), which falls into the Alatamaha, a direct communication is open to the Atlantic Ocean. At the recommendation of many philanthropic and influential friends, 100,000 acres of the lands situated in Irwin County have been appropriated, to divide into allotments of 25 acres, to enable persons of the most limited means to become purchasers, and embrace the opportunity of emigrating to a country where they will reap the fruits of their industry, and eventually become independent members of society.

It is proposed to divide the 100,000 acres into 4000 lots of 25 acres, at 8s. per acre, or £10 per plot. It is also proposed to issue scrip certificates for each 25 acres, to be paid for in four equal instalments of 2s. per acre—the first on delivery of the scrip, the remaining with a rest of three months between each. At the last payment the scrip receipt will be exchanged for a certificate, registered in the Land Office of the State, which will entitle the holder to the possession in fee of the lot numbered and specified in such certificate. An agent on the lands will point out and place the holder of said certificate in possession. 51

The purchasers of the several lots will be entitled to the minerals or products which may be found on the property so secured—thus considerably enhancing the value to be attached thereto.

It is further proposed, that the agent at Charleston or Savannah shall advance the emigrant, on arrival at either port, by way of loan, on the deposit of his registered certificate, such sum as he may require (not exceeding 4s. per acre) to be repaid in twelve months, with interest at 5 per cent., or at such periods as may be agreed upon. This advance to be applied *solely* to defray expenses incurred in reaching his location, and to the purchase of necessary implements required for his use. Should default arise by non-payment of loan, or non-fulfilment of agreement, the land referred to in said certificate, with all and every improvement thereon, will become forfeited to the vendor, or his assigns, and to whom the purchaser or his assigns will be bound to render up peaceable possession, under a penalty of £50, recoverable in any court of justice in the State of Georgia. Immediate steps will be taken to re-survey and divide the land into allotments of 25 acres. The survey, it is hoped, will be completed within six months; but previous to which no general location can take place. Notice will be given in the newspapers of the receipt of the re-survey, and new maps of the different lots. To such parties as, in the meantime, choose to pay in full for their allotments, a discount of 5 per cent. per annum will be allowed.

Every information may be obtained relative to the above, &c., from R. Kelly, Esq., 1, Royal Exchange Buildings, London, where applications for scrip may also be addressed.

RAZORS.—A NEW GUARD RAZOR, which can be used

in SHAVING WITHOUT the possibility of CUTTING THE SKIN.—The PATENT PLANTAGENET GUARD RAZOR consists of a moveable guard, adapted and fitted to the ordinary razor in such a manner, that, when used in the operation of shaving, it is impossible for a person to cut himself, however rapidly the razor may be passed over the face—the advanced position of the teeth of the guard pushing aside the skin, while the razor's edge removes the beard. The operation of shaving can, therefore, be performed by invalids, and blind, nervous, or paralised individuals, without fear—by the sick man in his bed, while in a recumbent position—by the sailor, or passenger, on board ship—by the soldier, the emigrant, and colonist, at a thousand miles distance from the barber—and by every man, without the need of a looking-glass, and with great freedom and celerity. It will also be found invaluable in Hospitals and Lunatic Asylums, where the head has to be carefully shaved. Guard Razors are fitted for right-hand shaving exclusively, and others for left-hand shaving exclusively. The patentees have determined upon giving the benefit of this pleasing invention to the public, at the additional price of the mere prime cost of the guard; and, therefore, the Razor and Guard will be sold at the following prices:—Best black handles, 6s.; best ivory handles, 8s.—Sold in single packets, sealed and warranted perfect, wholesale and retail, at the Depôt, 140, Strand, opposite Catherine-street, London. The Razor and Guard will be forwarded free to any part of Great Britain or Ireland, upon receipt of the price of the article required, by Post-office Order (made payable to C. Stewart and Co.), with 1s. extra for carriage. 52

Every Razor and Guard is stamped with the patentees' signature "C. Stewart & Co.," to imitate which is forgery.—A liberal discount allowed to the trade and to captains of vessels, shipping and country agents.

GUTTA PERCHA.—BOOTS and SHOES, SOLED with this

MATERIAL, being eminently non-conductors of heat, are exceedingly pleasant wear for tender feet, and however slight the soles, impenetrable by showers or salt-water—therefore, invaluable to SPORTSMEN, TOURISTS, and VISITORS to the SEA-SIDE. The idea that atmospheric heat has any detrimental effect upon Gutta Percha is a *fallacy*, and in no known instance have soles failed in adhering, which may not be ascribed to neglect of the company's printed directions. The more recent productions in Gutta Percha are elaborate cornices, highly enriched console tables, mouldings, panellings, picture-frames, &c., in every variety of finish and relief, dessert services, flower vases, fountains, lakstands, medallions, buckets, bowls, bottles, paper weights, pen trays, &c. Tubing of all sizes, from ⅛th of an inch to 4 inches diameter. For lining cisterns, sinks, galvanic troughs and batteries, Gutta Percha offers innumerable advantages; and, being impervious to water, unaffected by acids, alkalies, &c., it may fairly be said to be the discovery of the age.—May be had of the GUTTA PERCHA COMPANY, 53 18, Wharf-road, City road, and of any of their wholesale dealers.

PROFESSIONAL LIFE ASSURANCE COMPANY,

Connecting the Clerical, Legal, Military, Naval, and Medical professions, and holding out advantages to the public not hitherto offered by any similar institution.

Incorporated.—Capital £250,000.

Established upon the mixed, mutual, and proprietary principle. 54

Rates essentially moderate.—Every description of policy granted. Immediate, survivorship, and deferred annuities; and endowments to widows, children, and others. —Every policy (except only in cases of personation) indisputable.—The assured permitted to go to and reside in Canada, Nova Scotia, New Brunswick, Australasia, Madeira, Cape of Good Hope, and Prince Edward's Island, without additional premium.—Medical men remunerated for their reports.—Loans granted on real or personal security.—One-tenth of the entire profits appropriated for the relief of the assured while living, and of his widow and orphans.—Annuities granted in the event of blindness, insanity, paralysis, accidents, and any other bodily or mental affliction, disabling the parties.—Persons of every class and degree admitted to all the advantages of the corporation.—Rates for assuring £100 at the age of 25, 35, 45, and 55, respectively—namely, £1 14s. 6d., £2 5s. 6d., £3 4s. 3d., and £4 18s. 6d.

Prospectuses, with full details, may be had at the office.—Applications requested from parties desirous of becoming agents. EDWARD BAYLIS, Actuary and Secretary.

Offices, 76, Cheapside, London

BEWARE or IMITATIONS.—Unprincipled persons, chemists,

and others, prepare counterfeits of that popular remedy, Dr. LOCOCK'S PULMONIC WAFERS. Purchasers are, therefore, cautioned not to purchase any Pulmonic Medicine or Wafers, unless the words "Dr. LOCOCK'S WAFERS," appear in white letters, on a red ground, in the Government stamp, outside each box—without which all are counterfeits and an imposition.—Dr. Locock's Wafers give instant relief and a rapid cure of asthma, coughs, and all disorders of the breath and lungs—they have a pleasant taste.—Price 1s. 1½d., 2s. 9d., and 11s. per box.

Agents: De Silva and Co., 1, Bride-lane, Fleet-street, London. 55

Note.—Full directions are given with every box in the English, German, and French languages. These wafers, containing antacid and sedative properties, effectually prevent irregularity of the bowels.

IMPROVED LIFTING JACKS,

MANUFACTURED BY

W. AND J. GALLOWAY,

PATENT RIVET WORKS,

MANCHESTER.

IMPROVED RATCHET JACK.

HALEY'S PATENT LIFTING JACK.

56

. The attention of parties who employ

Lifting Jacks,

is respectfully requested to the superiority of those annexed, over those hitherto in use.

THE EXPLOSION OF STEAM-BOILERS.

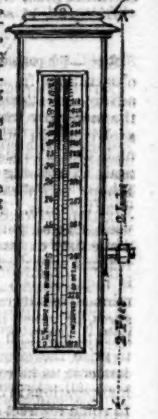
HENRY BAKER begs to call the attention of ENGINEERS and PROPRIETORS of STEAM-ENGINES to his

NEWLY-IMPROVED STEAM-GAUGE, 57

which shows the PRESSURE and TEMPERATURE of the STEAM, as seen in the drawing annexed. It is an ornament to the engine-room, and supersedes the ordinary mercurial gauge in these respects, by not being so cumbersome, much cheaper, and warranted accurate.

It has been tested at the Polytechnic Institution, London, with satisfactory results; and, since the boiler explosion of the *Cricket* steam-boat, this gauge has been adopted on board the steam-boats plying on the River Thames.

Boiler explosions, in many instances, occur through steam-gauges not being in good working order; therefore, every attention should be paid to these very necessary adjuncts.



HENRY BAKER'S STEAM-GAUGES

may be FIXED in a COUNTING-HOUSE, and will SHOW the PRESSURE the same as if fixed in an engine-room—thereby having a check on the person working the engine.

Price £2 2 0

VACUUM-GAUGES.

In brass frames, showing the barometric scale, from 22 in. to 30 in.

Price £3 3 0

In mahogany, very elegant, showing the barometric scale in full.

Price £3 3 0

HENRY BAKER,

BAROMETER, THERMOMETER, AND PHILOSOPHICAL INSTRUMENT MANUFACTURER,

No. 90, HATTON-GARDEN, LONDON.

ON NERVOUS DEBILITY AND GENERATIVE DISEASES.

Just published, the thirty-fifth thousand, an improved edition, revised and corrected, 120 pages, price 2s., in a sealed envelope, or forwarded, post-paid, by the Authors, to any address, secure from observation, for 2s. 6d., in postage stamps, illustrated with numerous anatomical coloured engravings, &c.

MANHOOD: the CAUSES of its PREMATURE DECLINE,

with plain directions for its perfect restoration. A Medical Essay on those diseases of the Generative Organs, emanating from solitary and sedentary habits, indiscriminate excesses, the effects of climate, and infection, &c., addressed to the sufferer in youth, manhood, and old age; with practical remarks on marriage, the treatment and cure of nervous and mental debility, impotency, syphilis, and other urino genital diseases, by which even the most shattered constitution may be restored, and reach the full period of life allotted to man. The whole illustrated with numerous anatomical engravings on steel, in colour, explaining the various functions, secretions, and structures of the reproductive organs in health and disease; with instructions for private correspondence, cases, &c.—By J. L. CURTIS & CO., consulting surgeons, 7, Frith-street, Soho-sq., London. 58

REVIEWS OF THE WORK.

We feel no hesitation in saying, that there is no member of society by whom the book will not be found useful—whether such person hold the relation of a parent, preceptor, or a clergyman.—*Sun*, Evening Paper.

J. L. Curtis, *On Manhood, and the Causes of its Premature Decline; with Plain Directions for its Perfect Restoration.*—[Strange, Paternoster-row.]—This is a book replete with valuable advice and information. It developes the fearful shoals on which a large proportion of human happiness is wrecked, and furnishes a chart by which they may be avoided and escaped. Fortunate for a country would it be, did its youth put into practice the philanthropic and scientific maxims here laid down. One cause of matrimonial misery might then be banished from our land, and the race of the enervate be succeeded by a renewal of the hardy vigorous spirits of the olden time.—*United Kingdom Magazine.*

Manhood: a medical work.—To the gay and thoughtless we trust this little work will serve as a beacon to warn them of the danger attendant upon the too rash indulgence of their passions—whilst to some it may serve as a monitor in the hour of temptation, and to the afflicted as a sure guide to health.—*Chronicle.*

Manhood: by J. L. Curtis and Co.—Their long experience and reputation in the treatment of these painful diseases is the patient's guarantee, and well deserves for the work its immense circulation.—*Era.*

Published by the authors, and may be had at their residence; sold also by Strange, 21, Paternoster-row, London; Heywood, Oldham-street, Manchester; Philip, South Castle-street, Liverpool; Robinson, 11, Greenside-street, Edinburgh; Berry and Co., Capel-street, Dublin; and, in a sealed envelope, by all booksellers.

Illustrated by 26 Anatomical Coloured Engravings on Steel, On Physical Disqualifications Generative Incapacity, and Impediments to Marriage. New Edition, enlarged to 196 pages.—Just published, price 2s. 6d., or by post, direct from the establishment, 3s. 6d. in postage stamps.

THE SILENT FRIEND: a medical work, on the infirmities

and decay of the generative system, from excessive indulgence, infection, and the inordinate use of mercury, with remarks on marriage, and the means of obviating certain disqualifications, illustrated by 26 coloured engravings. By R. & L. PERRY & Co., 19, Berners-street, Oxford-street, London. Published by the authors; sold by Strange, 21, Paternoster-row; Hannay, 63, and Sanger, 150, Oxford-street; Starie, 23, Titchborne-street, Haymarket; and Gordon 146, Leadenhall-street. 59

PART THE FIRST treats of the anatomy and physiology of the reproductive organs, and is illustrated by six coloured engravings.—PART THE SECOND treats of the consequences resulting from excessive indulgence, and their lamentable effects on the system, producing mental and bodily weakness, nervous excitement, and generative incapacity; it is illustrated by three explanatory engravings.—PART THE THIRD treats of the diseases resulting from infection, either in the primary or secondary form, and contains explicit directions for their treatment. The consequences of neglect, and of the abuse, of mercury are also clearly pointed out. This section is illustrated by 17 coloured engravings.—PART THE FOURTH treats of the prevention of disease by a simple application, by which the danger of infection is obviated. Its action is simple, but sure. It acts with the virus chemically, and destroys its power on the system. This important part of the work should be read by every young man entering into life.—PART THE FIFTH is devoted to the consideration of marriage and its duties. The causes of unproductive unions are also considered, and the whole subject critically and philosophically inquired into.

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